Writing papers and getting them accepted
Including basic LaTeX skills and understanding the review/publishing process
## Course contents

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## Hands-on

<p>| | |</p>
<table>
<thead>
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<th></th>
<th></th>
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</thead>
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<tr>
<td>Install and test LaTeX</td>
<td>Write an IEEE journal paper</td>
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<tr>
<td>Write tables and figures, MATLAB</td>
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</tr>
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<td>Write and submit your paper</td>
<td></td>
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</tbody>
</table>
Part A

Introduction to the course

Introduction to LaTeX

Getting started
Q. Why do you want to write a paper?

Motivation
Q. Why do you want to write a paper?

A. To inform the world community about significant new advances, to disseminate useful ideas and contribute to the world body-of-knowledge....
Motivation

Q. Why do you want to write a paper?

That's the OFFICIAL ANSWER...

The ACTUAL answer might be:
1. I need to publish a paper to graduate.
2. My supervisor told me to.
3. I need several papers to get a good job.
4. One day I want to be a famous professor.
5. My Mum/Dad/girlfriend/boyfriend will be proud of me.
Assume you need to write a paper now, and probably in future.

So we're going to adopt the highest standard and most advanced paper-publishing methods and technology.

Specifically we will use the same tools that the world's top authors and most famous scientific authors use. We will be learning how to structure and write papers, and get them published, using LaTeX.
Some characteristics of LaTeX?

It's not quick to learn. But once you learn it, it is a skill for life!

Use it to write:
- Papers
- Book chapters
- Books
- Research articles and reports
- Lecture notes
- Patents
- CV

You can even use it to prepare your presentations (I don't). This is called “Beamer”.

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Channel prediction for cooperative multi-antenna relay selection systems

S. Prakash, I. V. McLoughlin

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Abstract: The use of multiple antennas in cooperative systems is still a topic of many discussions. Such antennas are each equipped with multiple antenna elements with feedback. In this paper, we present a novel architecture for relay selection in cooperative systems. The proposed relay selection scheme is based on the expected performance gain, which is evaluated by using a maximum likelihood channel estimation. In this paper, we propose a novel relay selection scheme that is based on the expected performance gain. The proposed scheme is based on the expected performance gain.

1 Introduction

Cooperative relay technology appears to be a promising solution to support and enhance the performance of wireless systems. In the third generation (3G) systems, the use of multiple antennas is considered to be a valuable choice in order to improve the link reliability and spectral efficiency [4, 5]. Infrastructure-based (I-based) approaches to multiple-antenna relay systems have been shown to be beneficial in providing diversity and capacity improvement for wireless communication systems [2, 3]. However, to achieve similar performance to non-antenna relays, the use of antenna relays is a desirable option. In this paper, we propose a novel relay selection scheme that is based on the expected performance gain. The proposed scheme is based on the expected performance gain.
LaTeX is NOT a Word Processor

It isn't WYSIWYG (although some LaTeX front-ends are)

With LaTeX, you spend your time writing the content: the formatting is done for you automatically, including figure/table/section/reference numbering, placement of figures, tables etc...

With a Word Processor you spend a lot of time trying to change the way a document looks.

LaTeX is actually a programming language. Once you write the source files, you compile them to create the output

You can also keep them forever...
Why use LaTeX?

It is the easiest and best way to write scientific papers. The final result always looks professional. Complies with IEEE, IET, ACM, Elsevier, Springer and all other major publishers.

Very easy to reformat the entire paper (i.e. go from IEEE Journal style to IET Journal Style in less than a minute) It’s fun!! It feels good!! It looks good!!
This is the same paper, only the title and the documentclass changed.

LaTeX formatting

A Springer journal

\documentclass{svjour3}

You can reformat the paper for a different journal in just a few minutes by changing this line.
Getting started – what you need

There are many ways to get hold of LaTeX. Since it's Open Source, you can download it for free.

But normally we choose a LaTeX distribution. When we download and install this it will give us all the files and tools we need.
Note: It all started in 1978 with TeX, then LaTeX in the 1980s, then TeXeX to 2006, XeTeX, etc... now there are many variants...

We refer to them all as LaTeX. This is the “engine” that does the typesetting. Normally you would also use a front-end to control the engine, and various additional packages.
LaTeX on Mac OS-X

Personally, I use TeXShop as a front-end on the Mac:

A new mechanical index for gauging the human bio-effects of low frequency ultrasound

Farzaneh Ahmadi and Ian Vince McLoughlin

I. INTRODUCTION

Low frequency (LF) ultrasound has many applications including transdermal drug delivery [1], dentistry, eye surgery, body contouring, the breaking of kidney stones and eliminating blood clots [2]. Sound in this region tends to obey the familiar laws of audio, is easily handled by audio circuitry, devices and systems, and yet is inaudible to humans [3]. Encouraged by these advantages, several applications of LF ultrasound are emerging. A recent example includes ultrasonic speech systems [4, 5], where LF ultrasonic reflection is used to echo-map the human vocal tract. Other examples include the use of LF ultrasound for mouth state detection [6] and systems that use LF ultrasound as an aid to augment speech processing and recognition in noisy environments. Each of these has been made possible through the extension of speech autocorrelative modeling tools upwards in frequency [7]. Despite these and other forthcoming applications, there are significant gaps in the coverage of published safety standards which govern the use of low range), however the applications do not involve deliberate human exposure to the signals. Thus, these existing standards tend to focus on minimizing the risks to humans from airborne exposure. At present, there is no specific standard covering ultrasonic contact exposure for industrial applications [8].

By contrast, diagnostic medical ultrasound applications are predominantly contact methods, and thus several standards apply to ensure safety for high frequency applications. thermal and mechanical indices (TI and MI respectively) are used to quantify ultrasound effects in IEC 60601 part 2-37 [9] and other significant standards. The formulation for TI extends directly to the LF range, however the direct application of MI as it is currently defined is extremely questionable in the LF ultrasonic region. For reference, Table I summarises the safe limits of MI as defined by the most significant standards relating to diagnostic ultrasound.

This paper will revisit the existing MI formulation theory in Section II, present simulations concerning its effectiveness (especially for LF ultrasound) in Section III, before proposing and exploring a modified definition of MI in Section IV. Section V then concludes the paper.
LaTeX on Linux

Previously I used TeXMaker on Ubuntu:
LaTeX on Linux

Now, I often just run LaTeX on the command line....
Robust Sound Event Classification using Deep Neural Networks

Ian McLoughlin, Senior Member, IEEE, Haomin Zhang, Zhipeng Xie, Yan Song, and Wei Xiao

Abstract—The automatic recognition of sound events by computers is an important aspect of emerging applications such as automated surveillance, machine hearing and auditory scene understanding. Recent advances in machine learning, as well as in computational models of the human auditory system, have contributed to advances in this increasingly popular research field. Robust sound event classification, the ability to recognise sounds under real-world noisy conditions, is an especially challenging task. Classification methods translated from the speech recognition domain, using features such as mel-frequency cepstral coefficients, have been shown to perform reasonably well for the sound event classification task, although spectrum-based or auditory image analysis techniques have reported superior performance in noise. This paper outlines a sound event classification framework that compares auditory image front-end features with spectrogram image-based front end features, using support vector machine and deep neural network classifiers. Performance is evaluated on a standard robust classification task in different levels of corrupting noise, and with several system enhancements, and shown to compare very well with current state-of-the-art classification techniques.

Index Terms—Machine hearing, auditory event detection

I. INTRODUCTION

RICHARD F. Lyon of Google, in his prominent article of September 2010 [1], outlined the broad research field of machine hearing, in particular advocating a bio-mimetic approach in which machines attempt to model the human hearing apparatus. In fact, he and his group have since published a significant amount of research undertaken at Google using this approach [2]-[5]. In general, the published systems perform ear-like front-end auditory analysis, feature extraction, feature detection or generalisation. The requirement is that a trained system, when presented with an unknown sound, is capable of correctly identifying the class of that sound. Furthermore, that the techniques should be robust to interfering acoustic noise.

In fact, many researchers have worked on sound event classification over the years, using a myriad of techniques and features. These range from parametric signal processing-based approaches [7]-[9] through to automatic speech recognition (ASR) inspired methods [10] which often make use of mel-frequency cepstral coefficients (MFCCs) [11] and similar features. One promising new approach uses time-frequency domain spectrogram image features (SIF), introduced by Jonathan Dennis et. al. [12]-[15]. As with Google, Dennis et. al. use biological-inspired front-end processing, novel feature extraction techniques, allied with various back-end classifiers and associated machine learning techniques. Unlike the Google approach, the systems introduced by Dennis are sound event detectors or classifiers, and have been evaluated under real-world conditions including severe levels of degrading acoustic background noise.

In this paper, both stabilised auditory image [6] and spectrogram features will be evaluated for standard robust sound event classification tasks. The former could loosely be described as a sound event classifier inspired by the audio retrieval approaches of Lyon et. al. [3], which we call the Google-SAI system. The latter SIF methods are closer to the work of Dennis [15]. In each case, the front end analysis and feature extraction operations are followed by back-end machine learning methods. In this paper, we primarily compare the use of support vector machines (SVM) and deep neural network...
Wikipedia lists 38 different LaTeX front ends.....

Here are the ones that I consider to be “good” ones:

- **TexStudio** (Linux, Windows, Mac)
- **TexMaker** (Linux, Windows, Mac)
- **LyX** (Linux, Windows, Mac) – LyX is graphical
- **TeXworks** (Linux, Windows, Mac)

These should be complete packages that contain everything needed to write LaTeX documents, as well as front-end editors.
Useful programs and files

- .tex file - the "source code" of a LaTeX document
- latex - the program used to "compile" a .tex file to dvi
- dvi - device independent image file (like an object file)
- creates a PS output from a dvi file
- creates a PDF output from a dvi file
- dvips - converts dvi to PS
- dvipdf - converts dvi to PDF
- PS - postscript (laser printer language from Adobe)
- PDF - portable document format (from Adobe)
- pdflatex - produces a PDF output directly from the .tex file
- pslatex - produces a PS output directly from the .tex file
- this file creates a bibliography (see later)
Some other useful programs (Linux)

Conversion programs:

- pstopdf
- pdftops
- ps2pdf
- pdf2ps

Note: on Apple OS-X, just click on an EPS file or a PS file and then when it opens in Preview, “save as” a PDF.

“latex” uses EPS graphics files
“pslatex” uses PS graphics files
“pdflatex” uses PDF graphics files
All can use TIFF or JPEG files (but you should NOT use these as we will see later)
Part B

About academic papers

Paper structure and format

Templates
Academic Papers: requirements for the paper

A full journal paper

You have an idea that 'fits' and extends on previous work.
You test the idea.
You present results show that it is good compared to others work.
The idea or results are relevant, useful, & novel.
You are able to explain the idea, the motivation and the results.

A survey paper

An exhaustive and complete explanation of the field from a senior and experienced author.
Usually requires a huge list of references!
A correspondence or letter

A short paper describing a recent advance.
The degree of novelty is often slightly less than a full paper.
Not much space to explain things, so normally used for incremental improvements.
Usually reviewed and then published quickly.

A top-tier conference paper

A recent advance, or a good idea with interesting results.
The standard of novelty is slightly lower than for a journal paper.

A second-tier conference paper

A convincing paper presenting a slightly novel idea, or some test/evaluation results that might be useful to others.
Academic Papers: your preparation

Always have clear answers when you ask yourself:

1. Why am I writing this paper?
2. What type of journal/conference am I writing it for?
3. What is the “story” that I’m trying to express here?
4. Who are my target readers?
5. What will they get from my paper?
6. Why would the journal/conference want to publish it?
7. In 10 or 20 years’ time, if someone shows me this paper, will I be proud of it – or will I be ashamed of it?
Academic Papers: your preparation

Good to know:

1. Identify which journal you are targeting, and know what the editors like to publish (what has been published previously in that journal?)

2. Some journals allow you to suggest reviewers...

Advanced students only: track paper download figures to identify 'hot' trends and topics...
We will examine each of these components in turn.

Academic Papers: structural components

1. Title
2. Authors and their affiliations
3. Abstract
4. Introduction
5. Several sections of text
6. Conclusion
7. Acknowledgements (if any)
8. References
Academic Papers: structural components

You don't write the paper in a linear sequence!!!
Paper structure: abstract

Abstract

I like to start by writing a draft abstract.

- what am I writing about (what is the subject area)
- what am I trying to do/prove/accomplish
- did it work out?
- the two or three impact areas of the work

After writing the paper, we can revisit the abstract & update it.

In the final paper, the abstract & conclusion should match!
Paper structure: main text

Middle text
Section II, III, IV...

This is the main content of the paper.

For me, I usually start by presenting the results. Unless I'm re-using parts of a previous paper (in that case I would start by updating the literature survey).
Paper structure: main text

Several sections of text

Note: often the literature survey will be part of the paper introduction, but if it gets long, then it needs to be in a separate section.

You are writing a story! It needs to flow, to have a beginning, a middle and an end.

Literature survey: What did other people do

My approach: Describe the theory

My approach: How did I validate it

My results: Present the findings

The findings: What does this show?
Paper structure: introduction

Most people will download a paper after reading the abstract.
Then they will rely on the introduction to decide if they should read the paper.

What is this paper going to describe/establish/present?
What is the purpose of the paper?
What exactly will it show? If there's a performance score, mention it here
Why is this important?
What is the structure of this paper?
Sometimes: What is the notation used in the paper?
The introduction described what the paper will show. Now the conclusion should match this:

What the paper did show.

The conclusion contains nothing new!! It just repeats things for emphasis:

What did the paper show?

Why did we write this?

What is the importance of this?

Are there any other useful points?

If the paper has a performance score, repeat that in the conclusion...
Paper structure: other parts

**TITLE**

Authors and their affiliations

The title is your “claim”. Use it to attract attention. It's also very important in getting citations!! Some examples:

“MIMO Systems with Antenna Selection”

Short & simple & a wide 'claim' area. Doesn't say what the paper contains!

“Virtual branch analysis of symbol error probability for hybrid selection/maximal-ratio combining in Rayleigh fading”

Lots of keywords, but very specific. Describes exactly what the paper contains and what it analyses.

“A simple transmit diversity technique for wireless communications”

Students like the word “simple”. Doesn't talk about analysis.

“Space-Time Coding”

This is a book (quite famous). The title 'claims' it describes everything about STC. It's probably true!
who are the authors and how do you set the order of authors?  
the 1st author did most of the work and wrote the paper.  
the 2nd author helped.  
the 3rd author might be the supervisor of the 1st author.  
the 4th author maybe helped a small amount, or just did nothing but has some right to be named there.  
in general, it is not honest to add an author to a paper if they didn't contribute to the work in an intellectual way.
Paper structure: other parts

Acknowledgements (if any)

Be generous in acknowledging help.
You also have to acknowledge funding sources.

References

Some authoritative papers – i.e. famous authors
Representative papers – don’t miss the main papers
Same journal papers – editors like this...
If you used a paper you MUST be honest and include it in

In LaTeX, a tool called Bibtex will create and format the
reference list automatically.
Paper writing: the writing process

You always start with a paper template...

Almost all journals and conferences have their own paper template. One of the most popular is the IEEETran one used for all IEEE Journals and Conferences. This is IEEETran.zip:
bare_jrnl.tex

On my system, the commands are shown in black, the comments are shown in red...

> 90% of the template is comments!

Generally, we only read the comments when:
1) there's a problem
2) you have no other things you need to do
bare_jrnl.tex

The way you write your paper is by adding your material directly into this file, or by adding a command to include the material.
**bare_jrnl.tex**

We will scan through *bare_jrnl.tex* to discuss the important commands and structure.

But first you need to know that these are special characters:

& # $ % ^ { }

If you want to type a $ or a % you need to “escape” the character first using the \ symbol. It means you write $\$ or \% in your paper.

There are also some characters you can only use in maths mode, not in normal text:

+ = [ ] < > \n
To use these, we switch to maths mode first (explained later)!
New lines and spaces in text are not really important because LaTeX does all the typesetting for you. It means that these two Examples of paragraphs will be identical in the final paper:

This is a complete sentence. Note that spaces don't matter.

But 2 newlines together signals a new paragraph:

This is a new paragraph.
Here is our first command:
\documentclass[journal]{IEEEtran}

This is always needed to tell LaTeX what type of document we are writing (it's called a class).

Inbuilt classes are: book, report, article, slides, letter

IEEETran is not built in. So LaTeX will look for the file called IEEETran.cls which defines the class “IEEETran” [journal] is an argument to the IEEETran class.
After \texttt{documentclass} we would define any special packages that we want to use in the document (see later). The next important command starts the document text:

\begin{document}

Two things to remember in \LaTeX:

1. every \texttt{\begin{}} needs to match to a \texttt{\end{}}

2. every start bracket \{ needs to match an end bracket \}

All of your paper text goes inside here!

\end{document}
Let's continue scanning down after the \begin{document}

The next command is the title. You don't need worry about using upper or lower case or formatting it:

\title{Bare Demo of IEEEtran.cls for Journals}
After that is the author list. Let's examine the structure of one:

\author{Michael~Shell,~\IEEEmembership{Member,~IEEE,}
John~Doe,~\IEEEmembership{Fellow,~OSA,}
and~Jane~Doe,~\IEEEmembership{Life~Fellow,~IEEE}\
\thanks{M. Shell is with the Department of Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, GA, 30332 USA e-mail: (see http://www.michaelshell.org/contact.html).}
\thanks{J. Doe and J. Doe are with Anonymous University.}
\thanks{Manuscript received April 19, 2005; revised December 27, 2012.}}

The ~ means a non-breaking space. That's a space that won't become a newline (i.e. if you have A~B, then A and B will be on the same line).

We can force a newline with \\ or \newline
The command \maketitle creates the text block that contains the title text – don't change it. Let's continue looking inside the document...

\begin{abstract}

Note on abstract:
1. different journals have different maximum lengths!
2. you should not include citations in the abstract e.g. Antenna selection technologies [1] are well known
3. you normally don't expand abbreviations in the abstract e.g. as in maximal ratio combining (MRC)
You might list keywords after the abstract (and different journals have different policies on keywords).

One way to find good keywords is to look at the keywords used in other papers – especially the ones in your reference list.
Some examples – section heading

\section{Introduction}
Recent studies on MIMO (multi-input, multi-output) relays, prompted by standardization discussions for IEEE802.16j and 3GPP LTE (long term evolution) Advanced systems, have demonstrated improvements in link reliability and spectral efficiency \cite{fan,pabst}. Motivated by this,.................

I. INTRODUCTION

Recent studies on MIMO (multi-input, multi-output) relays, prompted by standardization discussions for IEEE802.16j and 3GPP LTE (long term evolution) Advanced systems, have demonstrated improvements in link reliability and spectral efficiency \cite{1,2}. Motivated by this, in \cite{3} the authors
Some examples – subsection heading

\subsection{ERROR probability}

The average SER for coherent demodulation of various modulation schemes in a slow fading channel is \cite{Yizhao}:

$$
\overline{P_s} = \frac{\alpha}{\sqrt{(2\pi)}} \int_0^\infty F_{\gamma_{eq}}(x^2/\beta) \exp(-x^2/2) \, dx,$$

where $\alpha$ and $\beta$ determine specific Constellations, and $F_{\gamma_{eq}}(.)$ is the CDF of $\gamma_{eq}$.

\subsection{B. Error probability}

The average SER for coherent demodulation of various modulation schemes in a slow fading channel is \cite{5}:

$$P_s = \frac{\alpha}{\sqrt{(2\pi)}} \int_0^\infty F_{\gamma_{eq}}(x^2/\beta) \exp(-x^2/2) \, dx,$$

where $\alpha$ and $\beta$ determine specific constellations, and $F_{\gamma_{eq}}(.)$ is the CDF of $\gamma_{eq}$. To facilitate finding a closed form solution of the above integral
Some examples – internal references

\section{Introduction}
\label{sec:intro}

Formant frequencies are....

Based on the discussions of section \ref{sec:intro}, when the...

Note: if you run from the command line, have to run the latex program TWICE to resolve internal references...

If you only run it ONCE then you might see ? Instead of 1.
More LaTeX peculiarities

Latex will convert these characters to “proper” quotes:

```
'rehello'
```

```
``hello world```

Note: don't use double quotes “” in your .tex file!!!
More LaTeX peculiarities

Latex will also convert the following dashes:

```
semi-precious
```

From 4 – 5pm and continuing —

Here are some useful formatting commands:

- This is \textit{italic}
- This is \textbf{bold}
- This is \texttt{computer}

To write an entire section of text in computer type do this:

```
{\tt your text goes here}
```

Note: we normally don’t use colour text in academic papers
More LaTeX peculiarities

**DROPCAPS** is where the first letter of a paragraph is made bigger (and the rest of the word is in capitals). Some IEEE Journals use dropcaps, some don't.

\texttt{\textbackslash \text{IEE}EPS\texttt{\textbackslash PARstart\{D\}\text{ropcaps}} is where the first letter...}

Most journals that we will write papers for don't use this! But it's useful in writing reports, CVs and other documents that need to look good...
More LaTeX peculiarities

When you quote small pieces of code in a paper, or the steps of an algorithm, you can use the `\verbatim` command:

following MATLAB command may be issued:

```
\begin{verbatim}
speech=wavrecord(16000,8000,1,'double');
\end{verbatim}
```

This records 16,000 samples with a...

or integrated microphone, the following MATLAB command may be issued:

```
speech=wavrecord(16000,8000,1,'double');
```

This records 16,000 samples with a sample rate of 8kHz, and places the...

---

(c) Professor Ian McLoughlin, 2014

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The Institution of Engineering and Technology 2012
Part C

The problem of plagiarism
LaTeX tables
LaTeX figures
Quoting code and text

Remember that when you quote material, you MUST own it or have the RIGHTS to quote it.

Be extremely careful...

Copying ideas, text, programs, diagrams from websites, papers, or other people without permission or acknowledgement is called PLAGIARISM
What is plagiarism

You know you have plagiarised when:

1. You paste ANY TEXT into your paper that was not written by you. Unless you are “quoting” it.

2. You paste ANY FIGURE into your paper that was not created by you. Unless you specifically say that it was copied. You also need to make sure you have the PERMISSION of the owner.

3. You take an idea from another paper or person and then pretend that it is your idea.
What is plagiarism

Regular Pulse Excitation (RPE) is a parametric coder that represents the pitch component of speech. It is most famously implemented in ETSI standard 06.10, and currently is the primary mobile speech communications method for over a third of the world’s population, by any measure an impressive user base. This is due to its use in the GSM standard, developed in the 1980s as a pan-European digital voice standard. It was endorsed by the European Union, and quickly found adoption across Europe and then beyond.

Maybe you need to describe RPE in your paper. So you search online and find this text in a book. You cut, paste and edit to:

RPE (Regular Pulse Excitation) is a type of coder that is used to describe the pitch signal in speech. RPE is part of ETSI standard 06.10. This is used in the GSM algorithm that started in the 1980s as a European Union digital voice standard. Now it is used by more than a third of the world’s population.

What do you think?
What is plagiarism

Regular Pulse Excitation (RPE) is a parametric coder that represents the pitch component of speech. It is most famously implemented in ETSI standard 06.10, and currently is the primary mobile speech communications method for over a third of the world’s population, by any measure an impressive user base. This is due to its use in the GSM standard, developed in the 1980s as a pan-European digital voice standard. It was endorsed by the European Union, and quickly found adoption across Europe and then beyond.

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What is plagiarism

Regular Pulse Excitation (RPE) is a parametric coder that represents the pitch component of speech. It is most famously implemented in ETSI standard 06.10, and currently is the primary mobile speech communications method for over a third of the world’s population, by any measure an impressive user base. This is due to its use in the GSM standard, developed in the 1980s as a pan-European digital voice standard. It was endorsed by the European Union, and quickly found adoption across Europe and then beyond.

Here is a better way of dealing with it:

Regular Pulse Excitation (RPE) was developed in Europe to encode speech pitch signals. McLoughlin describes it as being “most famously implemented in ETSI standard 06.10, and currently is the primary mobile speech communications method for over a third of the world’s population, by any measure an impressive user base” [1]. He goes on to describe how it was used in GSM which was “developed in the 1980s as a pan-European digital voice standard. It was endorsed by the European Union, and quickly found adoption across Europe and then beyond” [1].
What is plagiarism

Self-plagiarism is when you:

1. Write another paper based mainly on a previous one.

We all re-use old material, but each paper should be describing a new advance, i.e., add something new for each paper.

2. Copy an old diagram into a new paper.

If you assigned copyright of the old paper to a publisher (like IET, Springer, IEEE etc...) then they now own it, not you. Are you allowed to reuse it? If in doubt, edit the diagram in some way.
The consequence of plagiarism

1. The moral consequence.

Just like any other moral failure, you might think that nothing is happening, but do this too much and eventually you will become a bad person.

2. The practical consequence.

Someone will find out. Maybe not this week, this month this year. Maybe they will only find it out when you are rich and famous. Then, disaster will hit you. You made the disaster, you will suffer the consequences.
The consequence of plagiarism

Undergraduate Students
Hundreds of students received a 0% mark because of plagiarism.
The consequence is small because nobody reads their work!

Postgraduate Students, PhD/Masters
Much more serious, because your work can be 'seen' by people internationally. If you plagiarise, your degree will be cancelled.

Writing Papers / Books
Extremely serious – if found guilty you will never be allowed to have a paper published again. Maybe also a fine to pay.

In Work
Most likely you will lose your job.
The consequence of plagiarism

The German Defence Minister resigned in 2011 because he was found to have copied text in his PhD thesis written in 2006 (without giving a citation).

German Defence Minister Guttenberg resigns over thesis

The German army was being restructured under Mr zu Guttenberg, so his departure leaves a gap in government.

German Defence Minister Karl-Theodor zu Guttenberg has stepped down after he was found to have copied large parts of his 2006 university doctorate thesis.

Mr Guttenberg, considered until recently a possible candidate for chancellor, has already been stripped of his PhD.

He told a news conference that it was "the most painful step of my life".
The consequence of plagiarism

Some questions

Big data: how will this affect plagiarism detection?

Internet: how will greater connectivity and availability affect the chance of your work being analysed in future?

Internationalisation: China will adopt more 'Western' ideas about intellectual property...
The consequence of plagiarism

What is intellectual property?

Maybe I am a painter.

I paint beautiful paintings and sell them to make money.

One day you walk into my shop and steal a painting: you just take it from the wall and then walk out without paying...

I call the police, they track you down, arrest you and you go to prison.

Is this fair? Why?
The consequence of plagiarism

What is intellectual property?

Maybe I am a writer.

I use beautiful words to write books.

One day you steal my words. You just copy my words and use them as your own. You pretend that you wrote them.

I call the police.
The consequence of plagiarism

What is intellectual property?

Maybe I am a writer.

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One day you steal my words. You just copy my words and use them as your own, you pretend that you wrote them.

I call the police,

TODAY THEY JUST LAUGH AT ME
The consequence of **plagiarism**

**What is intellectual property?**

Maybe I am a writer. I use beautiful words to write books. One day you steal my words. You just copy my words and use them as your own, you pretend that you wrote them. I call the police, TODAY THEY JUST LAUGH AT ME BUT TIMES ARE CHANGING... SOON, THEY WILL ARREST YOU AND YOU WILL SUFFER THE SAME CONSEQUENCE AS SOMEONE WHO STEALS A PAINTING.
The consequence of plagiarism

Times are changing...

Today you might be able to 'get away' with some plagiarism.

But your work will survive forever in digital form.

In future, people will judge your work based on the moral standards of the future.

It means you need to be very careful that your work is always written to the highest possible standard.
Tables in LaTeX

Back to LaTeX... Tables are important – we use them a lot when we want to structure text.

Not only when we want to put a TABLE into the paper.

\begin{table}
\centering
\begin{tabular}{c}
\end{tabular}
\end{table}

This defines the number of columns

The content of the table goes in here
### Table II

**Maximum frequency for all methods against wordlength.**

<table>
<thead>
<tr>
<th>Size</th>
<th>CoreGen</th>
<th>FloPoCo</th>
<th>Cascaded</th>
<th>Tiling</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>42–58</td>
<td>452.5MHz</td>
<td>256.6MHz</td>
<td>452.0MHz</td>
<td>419.9MHz</td>
<td>444.5MHz</td>
</tr>
<tr>
<td>59–64</td>
<td>444.2MHz</td>
<td>157.1MHz</td>
<td>451.5MHz</td>
<td>N/A</td>
<td>442.8MHz</td>
</tr>
</tbody>
</table>
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<td>157.1MHz</td>
<td>451.5MHz</td>
<td>N/A</td>
<td>442.8MHz</td>
</tr>
</tbody>
</table>
Tables in \LaTeX

Define the caption text... (if we want the caption under the table, move this line to after \end{tabular}

\begin{table}
\centering
\caption{Maximum frequency for all methods against wordlength.}
\begin{tabular}{llllll}
\hline
Size & CoreGen & FloPoCo & Cascaded & Tiling & Proposed \\
\hline
42--58 & 452.5MHz & 256.6MHz & 452.0MHz & 419.9MHz & 444.5MHz \\
59--64 & 444.2MHz & 157.1MHz & 451.5MHz & N/A & 442.8MHz \\
\hline
\end{tabular}
\label{fig_freq}
\end{table}

Define a label for us to \ref inside the paper...
Tables in LaTeX

Let’s try another example. Assume we want a table like this:

<table>
<thead>
<tr>
<th>Link A</th>
<th>BER&lt;sup&gt;−1&lt;/sup&gt;&lt;sub&gt;δ(0)&lt;/sub&gt;</th>
<th>BER&lt;sup&gt;−1&lt;/sup&gt;&lt;sub&gt;δ(1)&lt;/sub&gt;</th>
<th>……</th>
<th>BER&lt;sup&gt;−1&lt;/sup&gt;&lt;sub&gt;δ(9)&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td>1100</td>
<td>……</td>
<td>1900</td>
<td></td>
</tr>
<tr>
<td>1000</td>
<td>900</td>
<td>……</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Note: for now we will ignore the maths symbols…
Tables in LaTeX

We start with the basic template for a figure in an IEEE paper.

Start with the number of columns...

\begin{table}
\centering
\caption{ }
\begin{tabular}{ }
\end{tabular}
\label{ }
\end{table}

Now we just need to fill in the missing parts, 

\begin{table}
\centering
\caption{ }
\begin{tabular}{ }
\end{tabular}
\label{ }
\end{table}
### Tables in LaTeX

We want:

- 5 columns
- All are CENTRE justified
- There are border lines ('|') between all columns except the outside ones...

So the column specification is: `c|c|c|c|c`

#### TABLE II: Dual-link BER channel difference distribution

<table>
<thead>
<tr>
<th></th>
<th>( BER_{\delta(0)}^{-1} )</th>
<th>( BER_{\delta(1)}^{-1} )</th>
<th>( \ldots )</th>
<th>( BER_{\delta(9)}^{-1} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Link A</td>
<td>1000</td>
<td>1100</td>
<td>( \ldots )</td>
<td>1900</td>
</tr>
<tr>
<td>Link B</td>
<td>1000</td>
<td>900</td>
<td>( \ldots )</td>
<td>100</td>
</tr>
</tbody>
</table>

```latex
\begin{table}
\centering
\begin{tabular}{c|c|c|c|c}
\end{tabular}
\end{table}
```
Tables in LaTeX

Working from the top down, fill in the rows.

Start with a horizontal line...

Then, fill in the first row...

Note the space before the first '&' (i.e. the first cell is an empty one)

\begin{table}
  \centering
  \caption{\quad}
  \begin{tabular}{c|c|c|c|c}
    \hline
    \text{BER} & \text{BER} & \ldots & \text{BER} \\
    \hline
    \text{Link A} & 1000 & 1100 & \ldots & 1900 \\
    \text{Link B} & 1000 & 900 & \ldots & 100 \\
  \end{tabular}
\label{\quad}
\end{table}
Tables in LaTeX

Next, we put two horizontal lines...

Then continue...

\begin{table}
\centering
{ \caption{ } \begin{tabular}{c|c|c|c|c}
\hline
& BER & BER & ..... & BER \\
\hline
Link A & 1000 & 1100 & ..... & 1900 \\
\hline
Link B & 1000 & 900 & ..... & 100 \\
\hline
\end{tabular} \label{ } \end{table}

\begin{table}
\centering
\begin{tabular}{c|c|c|c|c|c}
\hline
& $BER_{\delta(0)}^{-1}$ & $BER_{\delta(1)}^{-1}$ & ..... & $BER_{\delta(9)}^{-1}$ \\
\hline
Link A & 1000 & 1100 & ..... & 1900 \\
Link B & 1000 & 900 & ..... & 100 \\
\hline
\end{tabular}
\end{table}
Tables in LaTeX

Finally, complete the figure caption and give it a meaningful label...

In this way, we can build up some really complicated tables.

This is especially good when we want a program-generated table!
Tables in LaTeX – advanced topics

Here is a very complicated example...

\begin{tabular}{|c|c|c|c|c||c|}
\hline
& \multicolumn{4}{|l||}{\textbf{Double ended measures}} & \textbf{Single end} \\
\hline
Test & LLR & SSNR & IS & P.862 & {P.563~~~~} \\
\hline
$S \rightarrow W$ & 0.827 & 26.92 & 12.70 & 1.234 & 0.559$\frac{}{}$ \textbf{S}=3.620 \\
$W \rightarrow S'$ & 0.696 & 22.74 & 3.09 & 0.958 & 0.589$\frac{}{}$ $W=2.864$ \\
$S \rightarrow S'$ & 0.789 & 25.55 & 10.44 & 0.680 & 0.648$\frac{}{}$ $S'=3.394$ \\
\hline
\end{tabular}

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|c|c|c|}
\hline
\textbf{Double ended measures} & LLR & SSNR & IS & P.862 & \textbf{Single end} \\
\hline
$S \rightarrow W$ & 0.827 & 26.92 & 12.70 & 1.234 & \textbf{S}=3.620 \\
$W \rightarrow S'$ & 0.696 & 22.74 & 3.09 & 0.958 & \textbf{W}=2.864 \\
$S \rightarrow S'$ & 0.789 & 25.55 & 10.44 & 0.680 & \textbf{S'}=3.394 \\
\hline
\end{tabular}
\caption{Mean objective evaluation scores for original speech \textit{S}, whispers \textit{W} and reconstructed speech \textit{S'}. P.862 scores are shown as $\frac{\text{Raw MOS}_{LQO}}{\text{P.862}}$.}
\label{tab:example_table}
\end{table}

\multicolumn allows some text to span a few columns.
You must specify borders and justification.
\[1\text{ex}]\text{ adds extra row height.}

Anything between $ and $ is maths – ignore it for now.
Tables in LaTeX – more information

You can do a lot with tables. Here are some examples that I've used in the past:

1. Have a table containing other tables.
2. Have a table containing figures.
3. Rotate the table 90 degrees.
4. Span the table across multiple pages (by default it will always fit to one page).
5. Have text spanning several cells vertically (the example we showed was to span horizontally).

You can find a lot of material online about LaTeX tables!
Figures in LaTeX

Figures are important. They contribute a lot to the “look and feel” of any paper. You should **ALWAYS** make sure your figures are in vector format (unless your figure is a photograph or similar)...

- Bitmapped: jpg / jpeg, .bmp, .tiff, .gif
- Vector: .eps, .pdf, .ps

These formats can be both...
Figures in LaTeX

How do I create my figures?

From MATLAB/Octave – I just ‘print’ them as .eps files directly.

From OpenOffice/LibreOffice spreadsheet plot (calc), I just create the plot, select it and export as .eps format.

For other figures, I draw the figure in OpenOffice/LibreOffice, then select it and export as .eps format. Very quick, very easy.

Easy to convert between eps, pdf, ps on Linux and OS-X
Figures in LaTeX

Several ways to include figures, we will use the current IEEE paper method.

\begin{figure}[t]
\centerline{\epsfig{figure=block_diag,width=80mm}}
\caption{{\it Block diagram of reconstruction mechanism.}}
\label{fig:blockdiag}
\end{figure}

This includes the file ”block_diag.eps”, scaling it to be 8cm wide and giving it the specified caption & label.

[t] means the figure will be located at the 'top' of a page if possible (we could have [b] for 'bottom' or [h] for 'here', but none are guaranteed to be in those locations...)
That was the ‘new’ method. Many journals and conferences still use the ‘old’ method:

\begin{figure}
\centering
#includegraphics[width=10cm,height=6cm]{area.pdf}
\caption{Equivalent Slice usage for All Methods}
\label{fig_slice}
\end{figure}
Figures in LaTeX

By default, in a 2-column paper, figures fit into 1 column. But if you have a very ‘wide’ figure you can force it to fit across an entire page with:

\begin{figure*}
\end{figure*}

The same thing is true of table and table*
Figures in \LaTeX

The subfig package allows you to include two graphs or diagrams as subfigures:

\begin{figure*}
\label{fig:fig3}
\centering
\subfigure{
\includegraphics[trim=6mm 0mm 0mm 8mm,clip,width=9cm,height=5.8cm]{figures/out_8new.eps}}
\subfigure{
\includegraphics[trim=6mm 1mm 0mm 10mm,clip,width=9cm,height=5.8cm]{figures/out_15new.eps}}
\end{figure*}

Note: to make this work, you will need to “include” the package by adding this line after \documentclass at the top of your file:
\usepackage[tight,footnotesize]{subfigure}
Figures in LaTeX

Finally, one more useful thing: \vspace{} can be used to add some vertical space (for example, put it after a table to increase the space between the table and the following text).

But you can also do this: \vspace{-4mm} to reduce the space. This is very useful when LaTeX leaves a gap that's too big!

There are thousands of other things you can do with figures
Part D

LaTeX equations
Code listings
Bibliographies
Equations in LaTeX - overview

This is the strong point of LaTeX. It is why many people decide to use LaTeX. The equations formatting is really, really good.

\begin{equation}
\hat{\gamma}_i(k+\mathbf{D}) = \frac{\mathcal{E}_1}{N_0} \sum_{j=1}^{N_{rr}} |\hat{h}_{ij}(k+\mathcal{D})|^2
\end{equation}

Where $\mathcal{E}_1$ is the power of the transmitted signal at $M_S$ and $\hat{h}_{ij}(k+\mathcal{D}) = \mathbf{w}_{opt}^H \widetilde{\mathbf{h}}_{ij}$ is the

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Where $\mathcal{E}_1$ is the power of the transmitted signal at $M_S$ and $\hat{h}_{ij}(k+\mathcal{D}) = \mathbf{w}_{opt}^H \widetilde{\mathbf{h}}_{ij}$ is the
Equations in LaTeX – invoking maths mode

To create a separate equation, we put it between \begin{equation} \end{equation}

To have a formula in-line with our text, we place it between a pair of $ symbols like this: $\delta^2$

Note: $$.......$$ can also be used to give a stand-alone equation without any equation numbering.
Equations in LaTeX – further information on equations

This document can't teach you everything you need to know about equations in LaTeX, but will give you enough to get started.

Later, when you need something more, you can find almost everything you will ever need here:

http://www-h.eng.cam.ac.uk/help/tpl/textprocessing/latex_maths+pix/latex_maths+pix.html

You can also find many other resources on the web for LaTeX equation writing.
Equations in LaTeX – how to write

Build it up gradually... Use \{ \} to set the precedence in displaying equations (they are not displayed unless you do \{). Always close your brackets!!

Here are some examples:

\begin{equation}
B = \sum_{k=0}^{K-1} R_k P_k
\end{equation}

where $P_k$ is the probability that the $k$th mode is selected:

\begin{equation}
{P_k} = \int_{\hat{\gamma}_k}^{\hat{\gamma}_{k+1}} f_{\hat{\gamma}_{max}}(\hat{\gamma}) d\hat{\gamma}
\end{equation}

In fact $f_{\hat{\gamma}_{max}}(\hat{\gamma})$, the PDF of $\hat{\gamma}_{max}$, is independent of the modulation format and
Equations in LaTeX – how to write

Equations are numbered automatically. Use `\nonumber` to stop a number being displayed (see next page).

Labels and references work the same as with other labels:

\begin{equation}
{BER}(\hat{\gamma}) = \int_{0}^{\infty} {BER}(\gamma|\hat{\gamma}) f(\gamma|\hat{\gamma}) d\gamma
\end{equation}

With the aid of eqn. (\ref{eqn:instber}) and (A-1), (A-6) we can solve (10) as:

\begin{equation}
{BER}(\hat{\gamma}) = \int_{0}^{\infty} {BER}(\gamma|\hat{\gamma}) f(\gamma|\hat{\gamma}) d\gamma
\end{equation}

With the aid of eqn. (\ref{eqn:instber}) and (\ref{eq:pdfint}), (A-6) we can solve (\ref{eqn:instber}) as:

Note: in this example, the equation with label \{eq:pdfint\} is located in the appendix to the paper.
Equations in LaTeX – how to write

If you have a few equations and you want to line them up neatly, you can use \texttt{eqnarray} to help you:

\begin{center}
\begin{eqnarray}
P(d) &=& \sum_{m=0}^{L-1} (r_{d+m}^* r_{d+m+L}) \\
R(d) &=& \sum_{m=0}^{L-1} |r_{d+m+L}|^2 \\
M(d) &=& \frac{|P(d)|^2}{(R(d))^2},
\end{eqnarray}
\end{center}

Whatever is between the \& \& on each line will be aligned – it doesn't have to be an = sign. \textbackslash{} means the end of a line.
Matrices are handled differently — using the array command:

\[ \mathbf{C} = \left[ \begin{array}{ccc} |s_{HH}|^2 & 0 & s_{HH}s_{VV}^* \\ 0 & 2|s_{HV}|^2 & 0 \\ s_{VV}s_{HH}^* & 0 & |s_{VV}|^2 \end{array} \right] \]

\begin{eqnarray}
\begin{array}{ccc}
|s_{HH}|^2 & 0 & s_{HH}s_{VV}^* \\
0 & 2|s_{HV}|^2 & 0 \\
s_{VV}s_{HH}^* & 0 & |s_{VV}|^2
\end{array}
\end{eqnarray}

Notice how the array command syntax is similar to the way tables are handled in LaTeX.
Code listings in LaTeX

You can include your code, without changing it, formatting or editing it. This is a very good way to NOT introduce errors! It requires the listings package:
\begin{verbatim}
usepackage{listings}
\end{verbatim}

This program, called \textit{mac2mem.perl}, is given in Listing \ref{lst:mac2mem}.

\begin{lstinputlisting}[caption=mac2mem.perl, label=lst:mac2mem]
{mac2mem.perl}
\end{lstinputlisting}

The listings package has lots of options to change the way the code looks when printed.
Important things to remember

1. Backup your text as you write the paper. Just save a copy of the .tex file with a different name.

2. Default language for spelling. Set it in your OS:
   - International English
   - UK English

If you don't set the language it will default to the wrong version of English (many English-speaking countries have their own versions. UK English is the most standard one)
**Bibliographies with Bibtex**

**Using Bibtex, LaTeX will:**

1. Automatically include any papers you cite in your document, in the reference list.

2. Format them correctly according to the journal you are publishing in.

3. Put them in the correct order.

You can easily set the order (e.g. alphabetic, in order of citation, in date order) and citation style (e.g. numeric, author-date).

You can also use the SAME REFERENCES DATABASE for all of your papers (.bib file)!
Bibliographies with Bibtex

Put all your citations into a .bib file and give them unique labels.

Inside your LaTeX paper, cite the references using the labels from the .bib file.

Include a bibliography at the end of your paper, and tell LaTeX how to format it.

Run Bibtex ONLY when you have added a new reference.

Create a bibliography database (.bib) containing paper citations...

Add citations to your LaTeX file (.tex), and include the bibliography at the bottom

Run latex (or pdflatex / pslatex)

Run Bibtex

Run latex (or pdflatex / pslatex)

Run latex (or pdflatex / pslatex)
Bibtex – creating a .bib file

It's easy to get a Bibtex file. Download the citations from the web. i.e. **Google Scholar:**

```bibtex
@article{mcloughlin2008review,
  title={Review: Line spectral pairs},
  author={McLoughlin, Ian Vince},
  journal={Signal processing},
  volume={88},
  number={3},
  pages={448--467},
  year={2008},
  publisher={Elsevier North-Holland, Inc.}
}
```

Create a bibliography database (.bib) containing paper citations...
Bibtex – creating a .bib file

i.e. for IEEE Xplore

@INPROCEEDINGS{892261,
author={Adi, R.W. and Tio, C. M M and McLoughlin, I.},
booktitle={TENCON 2000. Proceedings},
title={Hardware architecture for data concealment using sub-band coding, LSB coding and pseudo-random bit stream generators},
year={2000},
volume={3},
pages={221-225 vol.3},
doi={10.1109/TENCON.2000.892261},}
Bibtex – creating a .bib file

i.e. for ACM Digital Library

@article{McLoughlin:2010:RTR:1698772.1698784,
  author = {Ian Vince McLoughlin and Timo Rolf Bretschneider},
  title = {Reliability through redundant parallelism for micro-satellite computing},
  issue_date = {February 2010},
  volume = {9},
  number = {3},
  month = mar,
  year = {2010},
  pages = {26:1--26:25},
  publisher = {ACM},
}
Bibtex – creating a .bib file

Sometimes we just add the entry manually, and we might need to edit the automatically-generated entries.

There are different types of entries, the order of items does not matter, but certain elements must be present.

@article is for journal articles:

```latex
@article{SharifJV2012,
title = "A Comprehensive Vowel Space for Whispered Speech",
journal = "Journal of Voice",
volume = "26",
number = "2",
pages = "e49 - e56",
year = "2012",
author = "Hamid Reza Sharifzadeh and Ian V. McLoughlin and Martin J. Russell"
}
```

SharifJV2012 is the label we use for citing this inside our LaTeX paper.
Bibtex – creating a .bib file

@inproceedings is for conference papers:

```bibtex
@InProceedings{speech:IVMICCPOLO,
  Author = {Ian Vince McLoughlin and Zhong Qiang Ding and Eng Chong Tan},
  Title = {Intelligibility evaluation of {GSM} coder for {M}andarin speech using {CDRT}},
  booktitle = "19th International Conference on the Computer Processing of Oriental Languages",
  vol=1,
  pages = {421-424},
  month = may,
  year = "2001"
}
```

Notes:

1. With Bibtex, don't worry about formatting – but you need to tell the system when to force the use of capital letters.
2. Give the authors' names in full, surname last, separated by 'and'. Don't use any punctuation in the author list.
Bibtex – creating a .bib file

@book{CUPbook,
Author = {Ian Vince McLoughlin},
Title = {Applied Speech and Audio Processing},
isbn = {9-780-5215-1954-0},
publisher = "Cambridge University Press",
year = 2009
};

@inbook{AhmadiBook2009,
author = "Farzaneh Ahmadi and Ian Vince McLoughlin",
title = "The use of low frequency ultrasonics in speech processing",
booktitle = "Recent Advances in Signal Processing",
publisher = "Itech Book Publishers",
address = "Vienna, Austria",
year = "2009",
chapter = "25",
pages = {503-528}
}
Bibtex – creating a .bib file

@phdthesis{Hamidthesis,
    author = "Hamid Reza Sharifzadeh",
    title = "Reconstruction of natural sounding speech from whispers",
    school = "Nanyang Technological University",
    address = "Singapore",
    month = jan,
    year = "2011",
    url = "http://hdl.handle.net/10356/46426"
}

@electronic{FPGA:opencores_webpage,
    title = "Opencores webpages",
    url = "http://www.opencores.org",
    month = may,
    year = "2003"
};

You can find a more complete explanation of these entry types, and others, here:

http://nwalsh.com/tex/texhelp/bibtex-7.html
Bibtex – adding citations to the LaTeX document

If I have an entry in my .bib file, I can now cite that as a reference in my paper using the \cite{ } command to give a numeric reference like [24] and an entry in the list of references.

In fact there are a few variants of this basic command to change how the citation gets displayed in the text:

\citet{lotfi09} for Lotfi et al. (2009)
\citetp{lotfi09} for (Lotfi et al., 2009)
\citet*{lotfi09} for Lotfi & Langensiepen (2009)

From “Writing a Scientific Paper in LaTeX”
Ahmad Lotfi, Nottingham Trent University, UK
Bibtex – adding the bibliography

Adding the Bibliography in an IEEE paper is simple, just include these lines after the conclusion of the paper:

\bibliography{IEEEabrv,myreflist}
\bibliographystyle{IEEEtran}

LaTeX will look for the following files in the current directory (if they are located elsewhere, just add the path to them in the command above):

myreflist.bib
- my bibliography file
IEEEabrv.bib
- holds standard IEEE abbreviations
IEEEtran.bst
- IEEE bibliography style

IEEEabrv.bib and IEEEtran.bst are provided as part of the paper template for any IEEE journal or conference.
Bibtex – adding the bibliography

Bibtex handles the appearance for you. For example, here are the first 3 references for the same paper which has been compiled for three different journals. There is no change to my .bib file and almost no change to the .tex file to do this:

References

IEEE Transactions


IET Proceedings


Part E

Useful packages
Debugging
The review process
Getting cited
Some more useful packages

Euro symbol

Then use \euro to generate the symbol.

International Phonetic Alphabet

vowels \textipa{I}, \textipa{E}, \textipa{ae}, \textipa{2}, \textipa{U}.

Get the full information here:

Chinese

Not as simple as you would think, because .tex files are ASCII:
http://blogs.fsfe.org/ciaran/?p=150
LaTeX – looking for errors!

When the program latex, pslatex, pdflatex run, they produce a huge amount of output text. If you have a problem, you'll need to scan through the text and look for errors. bibtex gives slightly nicer error information.

But basically, LaTeX error handling is really unfriendly!

IMPORTANT

Before submitting a paper:

1. Search for ? in the output PDF, because unresolved refs will be displayed as a ? only.

2. Look carefully at the LaTeX and Bibtex output to see if there are any errors. Most errors won't stop LaTeX working.
LaTeX – looking for errors!

Often LaTeX tells you what line number is the error, but many times it's wrong – especially if the error is a missing ``, `[`, or `)`...

It will take some time, but eventually you will start to know what the errors mean.

For now, if you can't find the source of an error, do a binary search – cut your paper in half, compile just that half. Was the error in there? If YES, cut in half again, if NO, try the half that you didn't process...

It sounds tedious, but even with a 200 page book, you can narrow the error down within 1 or 1 minutes. With a paper, you can get an answer in seconds.
More information on LaTeX

Find lots of useful LaTeX information from the engineering department of the world's no.1 university:

http://www-h.eng.cam.ac.uk/help/tpl/textprocessing/LaTeX_intro.html
What happens next?

You've used LaTeX to write a good paper.

Find out what format the journal requires (double spaced, single spaced, single column, double column). It's a 2-second adjustment in LaTeX to switch between those formats.

Go through the online paper submission process (e.g. Manuscript Central)

...... Wait......
What happens next?

Keep waiting.....
What happens next?

Keep waiting.....

The main editor should have sent your paper to an AE (associate or area editor). The AE should have selected reviewers who are now reading your paper.
What happens next?

Sometimes the review process takes a very long time, and you wonder what are the reviewers doing with your paper?
What do the reviewers do?

The job of a reviewer is to look through your paper to help the editor decide if it is worthy of publication. The reviewer:

1. Looks for errors in the paper (technical and grammar) and validates its basic 'correctness' as well as readability and relevance.

2. Decides if your work is novel.


4. Looks for what's missing (citations, arguments, prior-art).
The editor decides to accept/reject the paper.

This is the approximate flowchart of the usual editorial process for a journal paper.

A conference paper is simpler – a TPC (Technical Programme Committee) does the job of the editor.
Notification about review result

There are several possible outcomes from the paper review process. Although the wording might be slightly different, here is the spectrum of responses:

1. Unconditional rejection
2. Reject, but encouraged to resubmit after making major changes
3. Accept with mandatory changes
4. Unconditional acceptance (very rare)
Response to reviewers

Some typical IEEE statistics on the length of time taken to respond to authors:

<table>
<thead>
<tr>
<th>Regular Issue Paper Submission and Review Process Statistics$^1$ May 1, 2012 to April 30, 2013</th>
<th>Initial Decision</th>
<th>Final Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Papers Reviewed w/ Decision</td>
<td>Average Days to Initial Decision</td>
<td>St. Dev. of Initial Decision</td>
</tr>
<tr>
<td>513</td>
<td>60</td>
<td>28</td>
</tr>
</tbody>
</table>

An acceptance rate of 45% is quite high. Usually we will be nearer the 25% to 30% range for journals, and 50% for a typical conference.
Response to reviewers

Normally, reviewers will send back... a list of items you need to change, delete or add.

For each item, decide what you want to do from the following choices:

a) Change nothing, but you have to explain to the reviewer why you are changing nothing.

b) Edit the paper to reflect the reviewers comment.

c) Do additional work, plot more graphs or get more results according to what the reviewer asks.

Note: while you don't have to accept every point, you do have to make enough changes to the paper to satisfy the editor (or reviewer if it's being re-reviewed).
Response to reviewers

Dear Professor Shen,

Thank you for the good news that this paper is accepted for IET Communications subject to minor corrections.

We are also grateful to the reviewers for their good quality and timely review. On the following two pages, we have outlined the updates and corrections that we have made to the paper in response to the review comments. We are confident that we have addressed each of the reviewer’s points fully.

Along with this letter I have uploaded a complete PDF plus all LaTeX source files. I hope that your editorial team find that this is all satisfactory. Please feel free to contact me at any time if further actions are necessary.

Yours sincerely,

Dr Ian McLoughlin
ScMIEEE, MIEE, CEng
Associate Professor
Computing Systems
School of Computer Engineering
Nanyang Technological University
Block M, Nanyang Avenue, Singapore 639798

1. The mathematical analysis behind the current work largely stems from prior work on the literature. The only difference is that the correlation between the old and new channels are manipulated using channel prediction. This fact must be cleanly stated in the paper and authors must concentrate on the results. Its practical value could be discussed in length.

2. The literature survey on outdated CSI and relay systems is not sufficient. For example, some recent results on the topic are missing.

Example:


The authors are encouraged to discuss the main difference of the current work in relation to [R1] and [R2] (in terms of the mathematical analysis provided in this work).

1. There are some major differences between existing work and the current paper. Firstly, the mixture of multiple antennas and outdated CSI had not been explored before in such systems. Secondly, we derived closed form solutions for BER/outrage probability. Not only are these novel, but they also extend to arbitrary quantities of:

   • receive antennas

(1) Always thank the reviewers!

Response to reviewers comments

First of all, the authors would like to thank both reviewers and the editorial team. We were grateful to note that the reviewers had read the paper carefully and taken pains to understand the content, we are also pleased with the positive nature of their comments.

(2) Work through each reviewers comments in turn.

(3) Point-by-point, reproduce the main part of each point.

(4) For each point, say what you will do or justify why you won't be making any changes.

(5) A nice letter always helps!
Preparing final 'publication packet'

Once your paper has been unconditionally accepted, you will be asked to upload a final 'publication packet'. Usually a zip file which contains everything needed to create the final paper.

It will need to include the following:

1. Your .tex file for the paper.
2. Your .bbl file (this is the output from Bibtex – you can also cut the contents of the .bbl file and paste it into your .tex in the references section to replace the \bibliography{}).
3. All of the .eps graphics files and any listings.
4. A copy of any .sty, .cls and .bst files.
Proof checking

The editorial team will probably contact you to look at the proofs: to answer any questions they have and search for errors.

A Comprehensive Vowel Space for Whispered Speech

Hamid Reza Sharifzadeh, Ian V. McLoughlin, and Martin J. Russell, Singapore, Birmingham, United Kingdom

Summary: Whispered speech is a relatively common form of communications, used primarily to selectively exclude or include potential listeners from hearing a spoken message. Despite the everyday nature of whispering, and its undeniable usefulness in vocal communications, whispers have received relatively little research effort to date, apart from some studies analyzing the main whispered vowels and some quite general estimations of whispered speech characteristics. In particular, a classic vowel space determination has been lacking for whispers. For voiced speech, this type of information has played an important role in the development and testing of recognition and processing theories over the past few decades and can be expected to be equally useful for whisper-mode communications and recognition systems.

This article aims to redress the shortfall by presenting a vowel formant space for whispered speech and comparing the results with corresponding phonated samples. In addition, because the study was conducted using speakers from Birmingham, the article extends to discuss the effect of the common British West Midlands accent in comparison with Standard English (Received Pronunciation). Thus, the article presents the analysis of formant data showing differences between normal and whispered speech while also considering an accentual effect on whispered speech.

Key Words: Whispered speech—Vowel space—British West Midlands accent—Formant analysis—Acoustic characteristics.

INTRODUCTION

Acoustic measurements of phonated vowels and diphthongs form foundational material for the speech processing and recognition fields. Wide research efforts, mainly based on acoustic characteristics of normal vowels, show the importance of these measurements, whereas numerous studies, in turn, have considered formant patterns in terms of vowel diagrams and the corresponding characteristics of normal vowels.

Despite the strong literature supporting normal vowels, little research effort has been spent on whispered speech relating to vowel space. Apart from the studies describing the vocal mechanism of whispers' production mostly on a glottal level, as well as a recent study on whispered consonants, the few notable studies on whispered vowels are mainly concentrated on a few main vowels and conclude with general comments on vowel placement such as "higher whispers are produced by normally speaking people to deliberately increase perturbability, such as whispering into someone's ear in a theater, and are usually spoken in a relaxed manner with little effort. Stage whispers, however, are used if the listener is some distance away from the speaker and are actually a whispery voice, which includes partial phonation. The more common soft whispers, produced as an aid to speech, are the focus of this study.

As mentioned, the lack of physical feature and the most of whispered speech. It implies the pitch and the harmonic relation from this. In a source filter model, the source of excitation in whisper is replaced directly the exhaled air passes directly the vocal cords and the larynx,
Congratulations!!!

Your paper is finally published
Getting your papers cited - **HOWTO**

Place a draft copy of your paper online for students to download (Google Scholar will find it very quickly). Try [http://arxiv.org](http://arxiv.org)

Some people put the PROOF online, but I'm not sure that it is legally allowed. It is DEFINITELY not allowed to put the final paper online, so don't do that!

You can send a copy to other people in the field (but that's quite annoying behaviour...). Maybe better to give printed copies to people at a conference.

Mainly, the best way to get citations is to write a GOOD paper!! Give it a GOOD title, a RELEVANT abstract, and publish it in a GOOD journal!
What is a GOOD journal?

For speech/audio signal processing, we normally consider the following to be good journals (the list is not in any order):

- **IEEE Journals** e.g. IEEE Trans. Audio Speech and Language Processing
- **IET Journals** e.g. IET Signal Processing
- **Most ACM Transactions**
- **Electronics Letters**
- **Speech Communications Journal (Elsevier)**
- **Journal of Voice**
- **Journal of the Acoustical Society of America (JASA)**
- **Signal Processing Journal (Elsevier)**
- **The Audio Engineering Society (AES) journal**

For an objective measure, we can use the Thomson-Reuters Journal Citation Report (JCR) “Impact Factor”. As a rough guide, IF > 1 is good.
Afterwards

If you want to know about PRESENTING your work (i.e. at a conference), you can refer to my other article here: [link to article]
The End

Thank you!!