Paper Write Up – Part I

- IEEE Format (see lecture for Overleaf)
- 3 – 5 Pages excluding References
- IEEE Style Referencing

1. Introduction

- **Problem Definition**
  What real life problem are you trying to solve and in which domain?

- **Motivation & Significance of the study**
  Why did you decide to try to solve this problem?
  What practical uses will your solution have?

- **Hypothesis & Research Questions**
  What is the main aim of your research (hypothesis)
  What are the objectives to be reached (research question)

2. Literature Review

Structure

- Written in the past tense
- No use of personal pronouns e.g. I, we, he, etc.
- Make the research the focus of the sentence not the researcher
- Length : Do not exceed 50% of the 2nd column on page 2 for 5page paper
  (If you need too many words you do not know it well enough)

Content

- Evaluate recent 3 papers (Past 5 years. Find 5papers and select the best 3 + online articles)
- How to evaluate papers
    - Describe what has happened in this research
    - Point out similarities & differences between researches
        - Techniques e.g. Latent Semantic Analysis
        - Technologies e.g. Phyton Pandas library
        - Data Gathered – what data and from where? How was it presented?
        - Results – how where they obtained? What conclusions were made?
        - Limitations

    Build a Mind-Map (rough paper) to help you link concepts together.

3. Methodology

Aim :
To explain what steps were taken during the research to prove the hypothesis true/false and to explain why things were done the way they were (justifying your decisions).

A) What will I do?

Techniques i.e. Artefact Design

Discuss what techniques will be used to achieve your purpose e.g. what techniques will be used to classify text has being positive (happy, encouraging, etc.) or negative (sad, angry, etc.)
Why have you decided to use these techniques?

Data

What datasets you will be using; describe the data set e.g. where was it obtained from, what kind of data does it contain, was it used in any other research, did you need to clean/filter the dataset?

Technologies

What kind of artefact will you create?
E.g. mobile app, web app, desktop, app.

What technologies will be used to implement your artefact?
E.g. Phyton v3 using Jupyter Notebook, Visual Studio (.Net Framework 4.5) and 3rd party libraries.

B) How will I test it?

Decide whether your research is Qualitative/Quantitative

Discuss this for each research question

Data Gathering

- What data will you gather for your results?
- How will you gather this data?
- Why did you decide to gather this data in this way?

Result Presentation

- How will you present the data that you have gathered in order to identify results easily?
    E.g. Confusion Matrix
        Cluster Plot
        Graphs & Charts
- Why are you presenting your data in this way?

Evaluation Techniques

- How will you measure your results?
  E.g. Metrics? Comparing to other statics gathered by another survey?
- Why have you selected these techniques?

Hint: Drawing your pipeline will help clear your ideas about your methodology