NEURAL NETWORK APPLICATIONS COURSE (CSE616) FINAL PROJECT – MIDTERM REPORT

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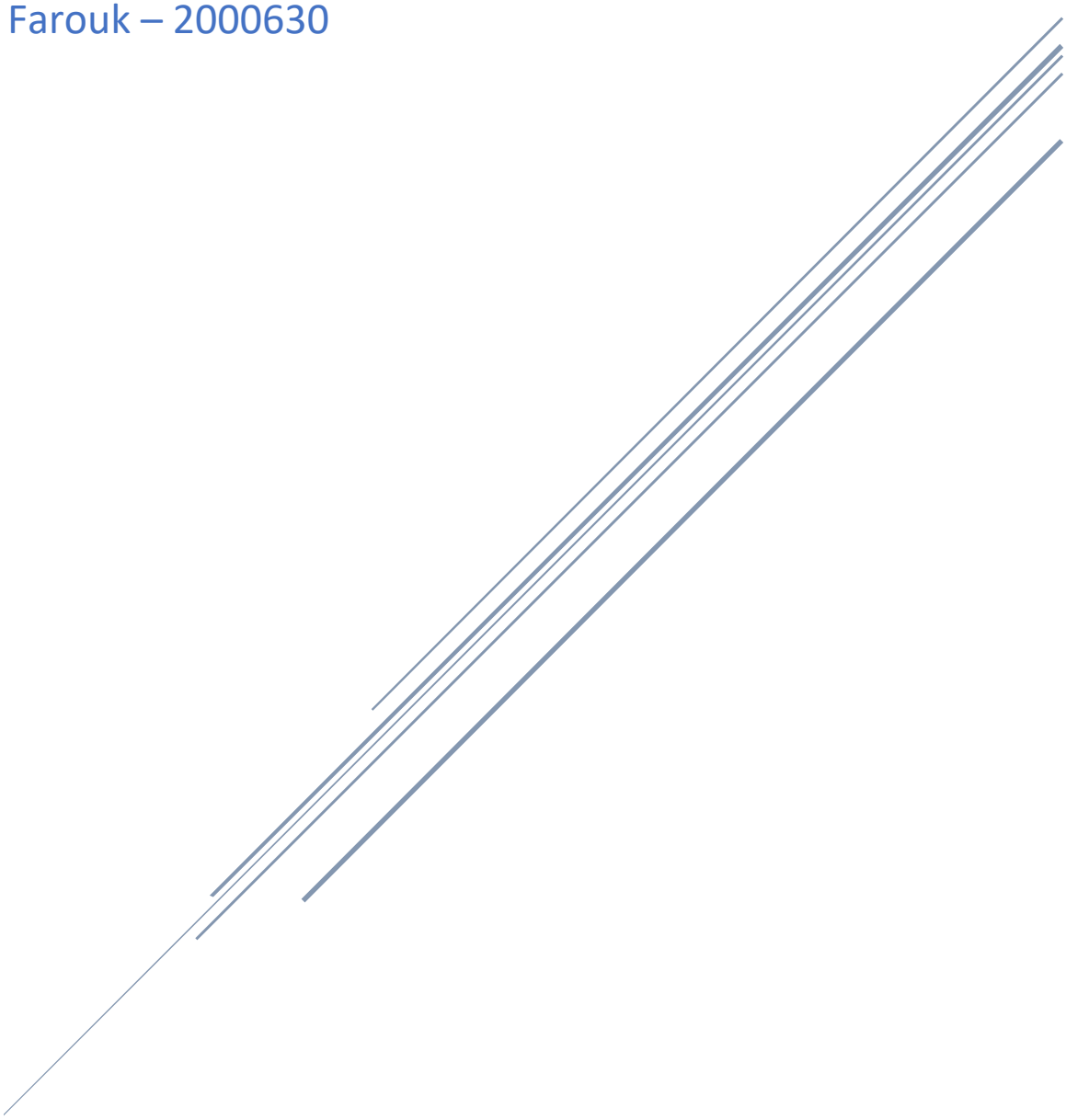

Introduction

This project implements the solution proposed in "**A Study on Arrhythmia via ECG Signal Classification Using the Convolutional Neural Network**" paper in Python, as the solution should have been implemented in Matlab but there's no reference for the code in the paper.

Achievement

We have set the main architecture, which is:

- One-dimensional 12-Layer convolution with Average Pooling
- Dropout Layer
- Fully Connected Layer
- Softmax Output Layer

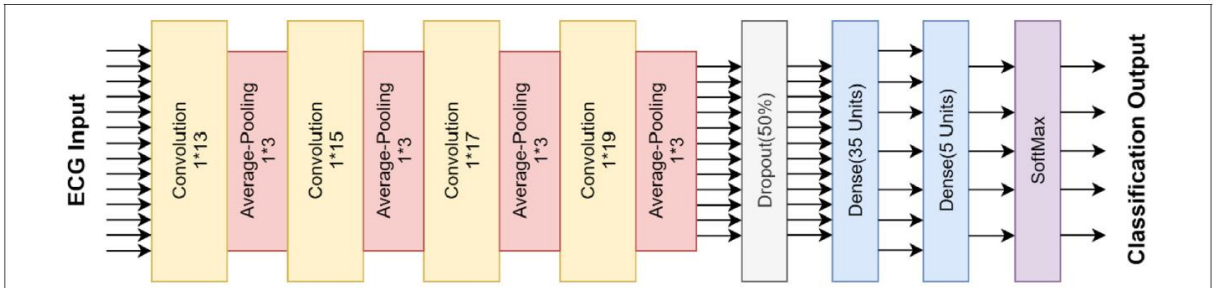

FIGURE 3 | The architecture for the proposed CNN model.

Next Phase

Making the data preprocessing and passing the result to the above network, which are:

- De-noising using Sym4 Wavelet Transform.
- Data Segmentation
- Data Enhancement (Rebalancing Classes)

Project Link

https://colab.research.google.com/drive/1_d9ztBBPuA6aGraE2UAkexDGfrDWKFeZ?fbclid=IwAR1JZQwf_D0gjKwBkY0wcxvidDxfwUX0wVJ1lb-cN4j3QqBGOwyNy8-km7U#scrollTo=YHWad1EEwCpg