Ailment Classification Given Description of Symptoms

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The Problem

- 89% of American patients search their symptoms prior to visiting their doctor
- Overwhelming series of articles may be contradictory
  - Could concern certain users
- This preliminary research step should be streamlined

When you google symptoms of your cold and it tells you you've got three different diseases, you're pregnant and got two weeks to live

Our Approach

- We first had to determine a model for text classification
- Promising research done with Neural Networks, specifically Convolutional Neural Networks
  - Often utilized in image classification
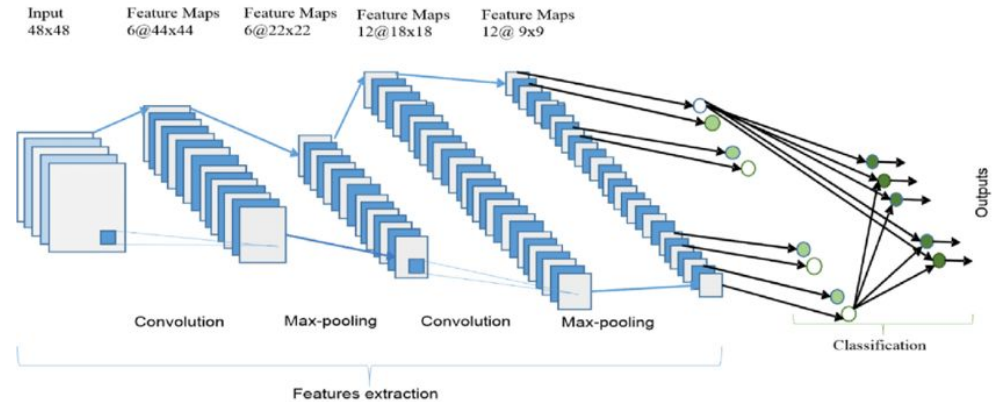 - Also effective at recognizing patterns in text

Data

- Unable to find a dataset of classified descriptions of symptoms and their associated afflictions
- Scraped descriptions from a variety of websites which used less formal terminology (Ex: Mayoclinic, UpToDate)
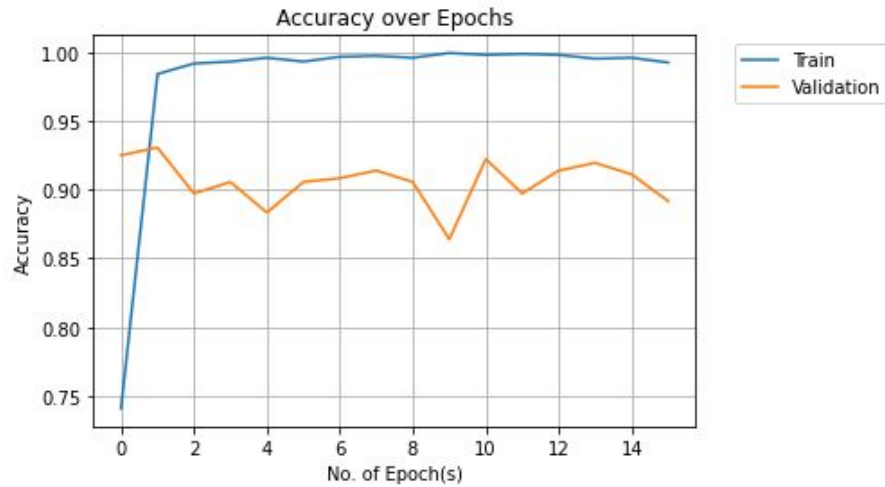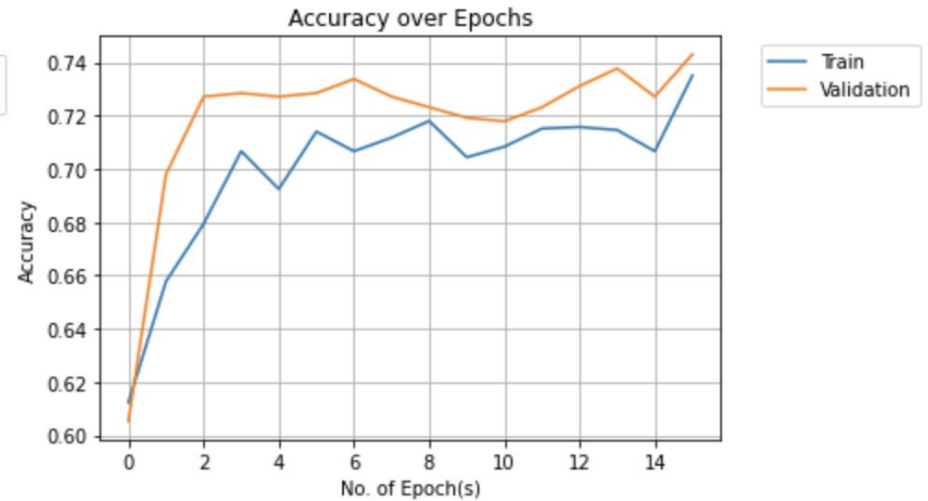
Model Structure

- Hot Encoding / Fast-Text Pre-Processor
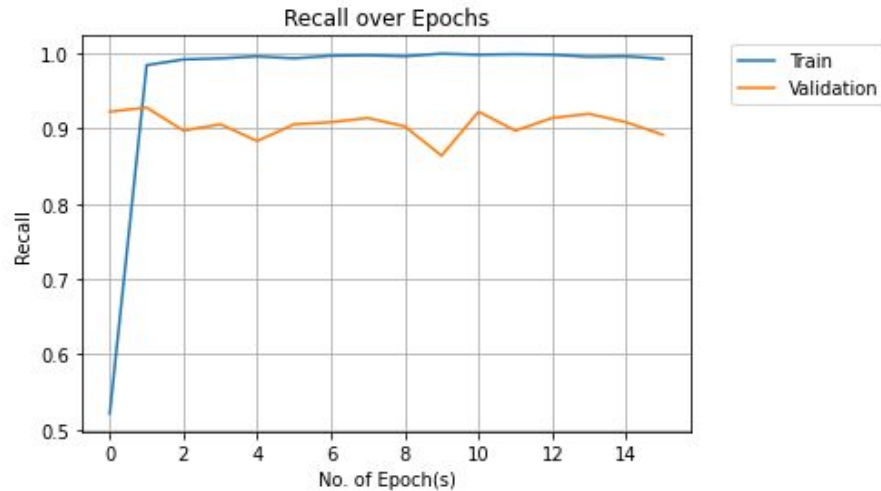- Dense & Dropout Layers
- CNN

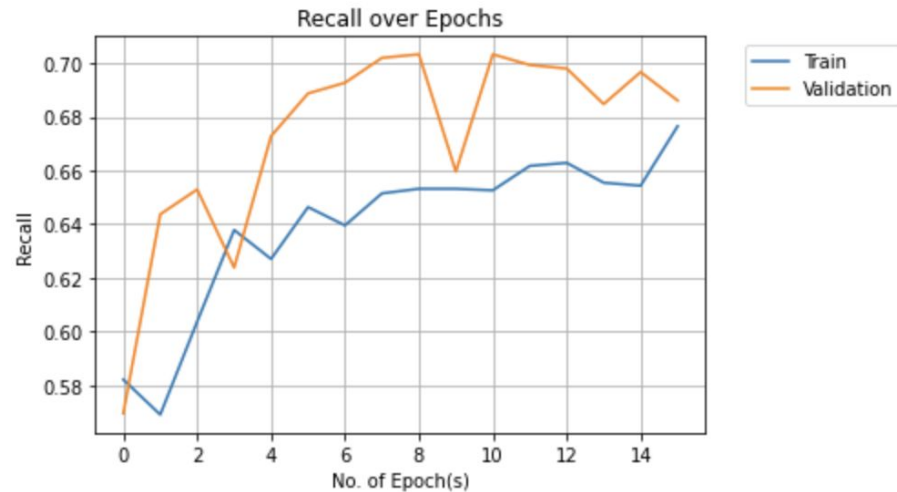# Results - Accuracies
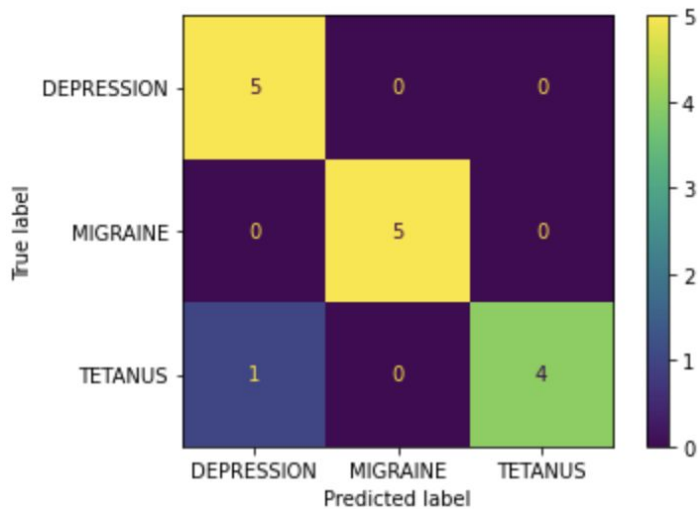

Implementation 1

Implementation 2

Results - Recall

Implementation 1

Implementation 2

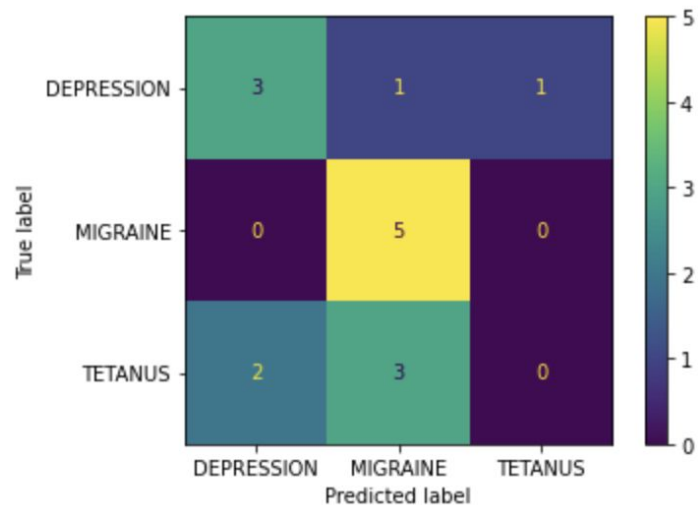# Confusion Matrices (15 Custom Descriptions)

Implementation 1

Implementation 2

Q & A