



# Week 9 Progress Report

Presenter: Matt Behnke

Mentor: Dr. Guo



# Table of Contents

1. Going over mis-labeled data methodology / results
2. Going over final paper

# Misclassified data

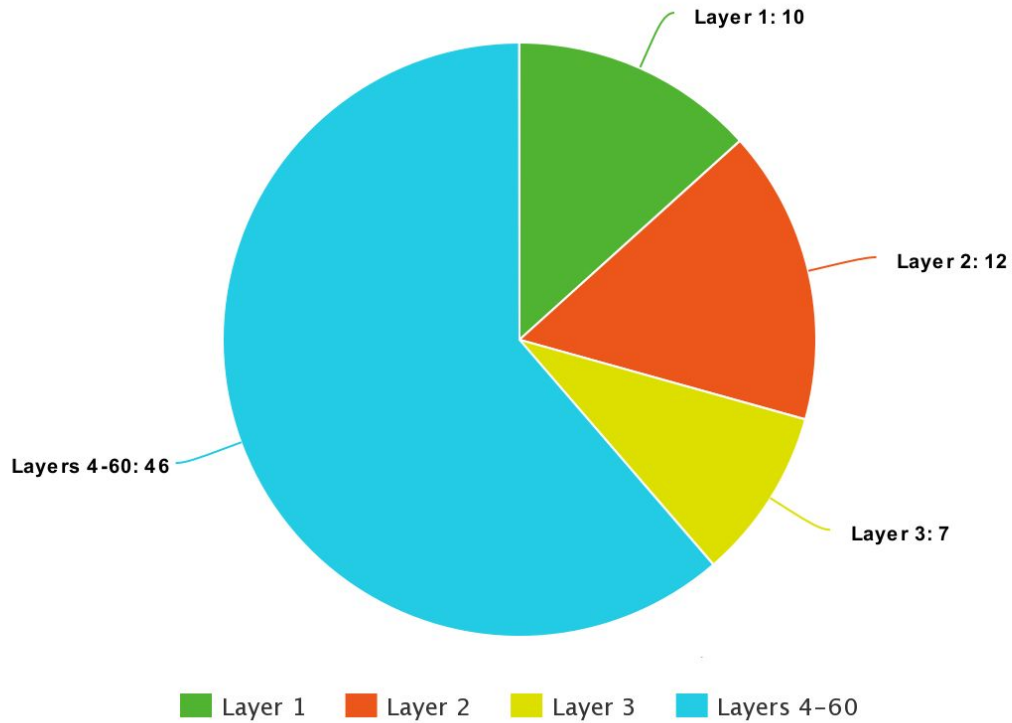
---

Over 25 trials with the Early Stopping Neural Network at the random 50/50 split

- 75 different files out of the original 1556 were misidentified
- '0' status refers to a positive, while 1 refers to 'negative', so when they are incorrectly identified as so it refers to 'false positive' and 'false negative'
  - 42 False Positives
  - 33 False Negatives
- By counting files more than once (predicted incorrectly over multiple trials)
  - 79 False Positives
  - 539 False Negatives
- 38 different layers were misidentified
  - Out of the 75 different files, Layer 1,2 & 3 constituted of 29/75
    - 12 Layer-2 Files were misidentified
    - 10 Layer 1 files were misidentified
    - 7 Layer-3 files were misidentified

All other files had 2 or less instances

# Graph used in paper



- Used Pie Graph so I could group layers 4-60 into one slice
  - Since it is a lot of layers and all of them either are mislabeled once or twice
- Shows the significance of the first three labels
  - Accounts for over  $\frac{1}{3}$  of the graph, yet only represents  $\frac{1}{20}$  of the total labels

# Before Going into the Paper...

## Items Changes

- References Added
- Flowchart added
- Contribution Added
- Formula for Test Accuracy Added
- Photo of pyrometer removed
- More in-depth literature reference in introduction
- Added Comparison and discussion of what cropping method to use
- Added graphic of incorrectly identified layers and discussion

## Items to Note / Concerns

- Overall introduction, what I should be citing and going for?
- Could not get access to Quality Technology and Quantitative Management Articles
- Do not have comparison for table for other studies yet
  - Feels too much like the other paper