Facial Recognition with OpenCV and WorkQueue

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Objective

- Parallelize the OpenCV facial recognition algorithm.

- Determine the effectiveness of OpenCV's Fisher facial recognition method over large and varied data sets.

- Measured by runtime and accuracy.

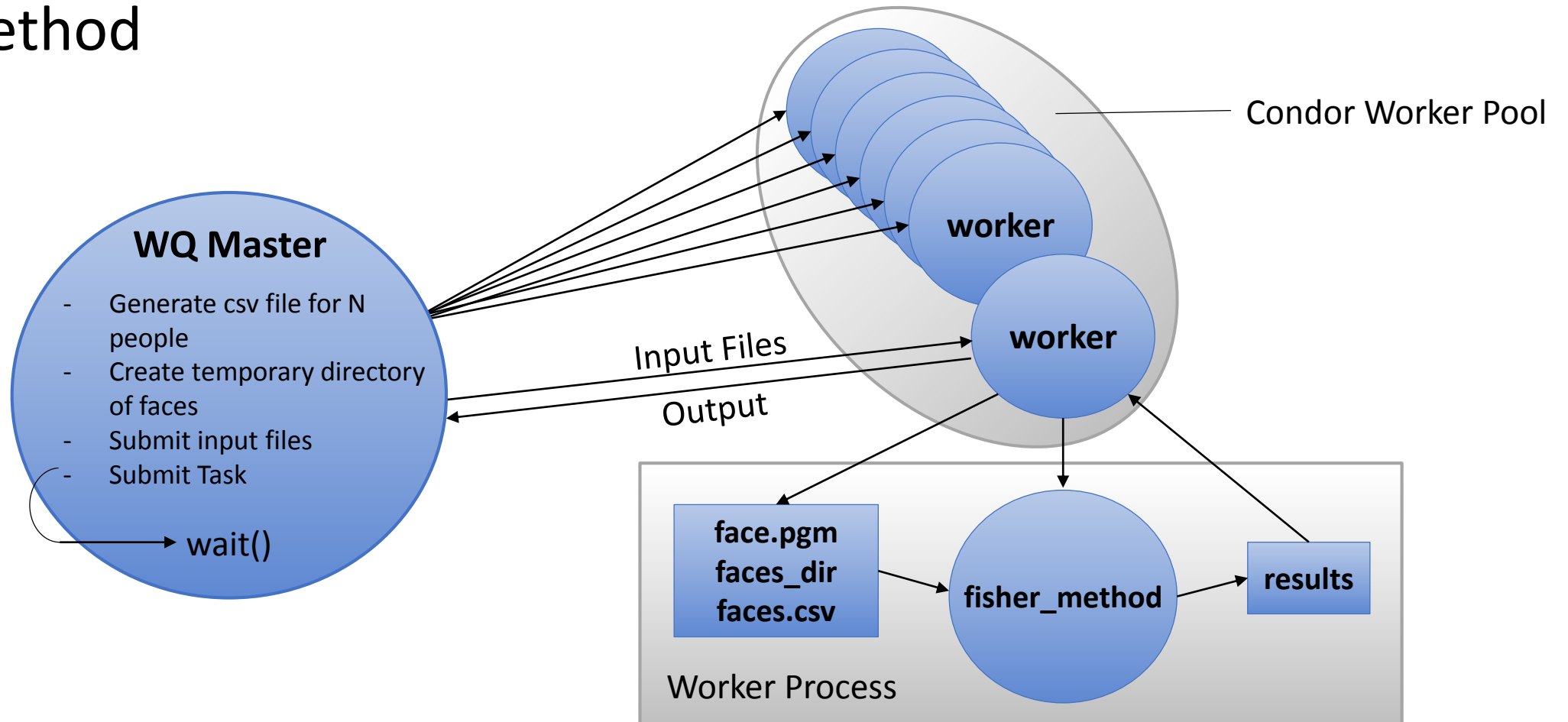# Facial Recognition with OpenCV

- OpenCV – Open Source Computer Vision
- Eigenfaces
  - PCA – Principle Component Analysis
- Fisherfaces
  - LDA – Linear Discriminant Analysis
- Toolset
  - Python
  - C++
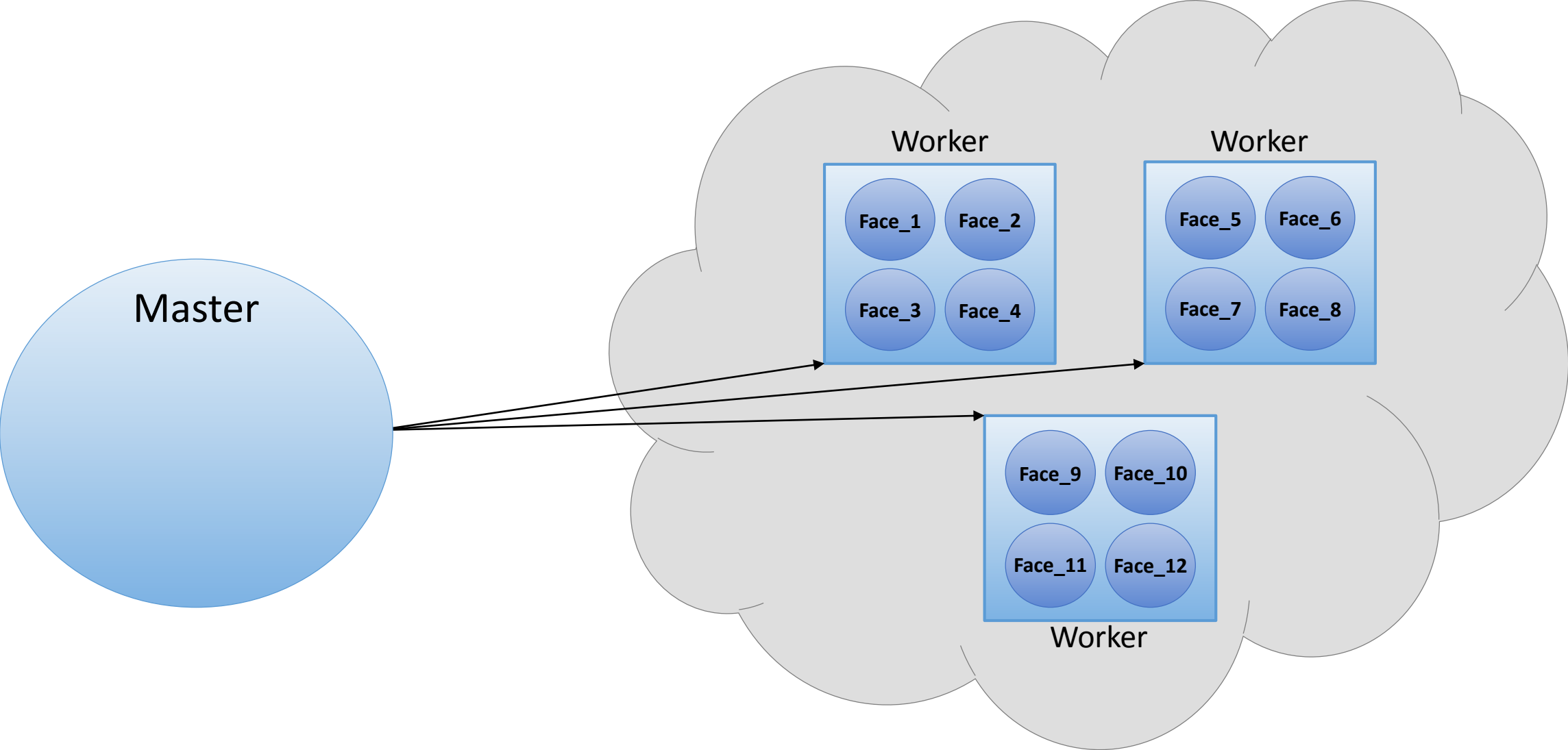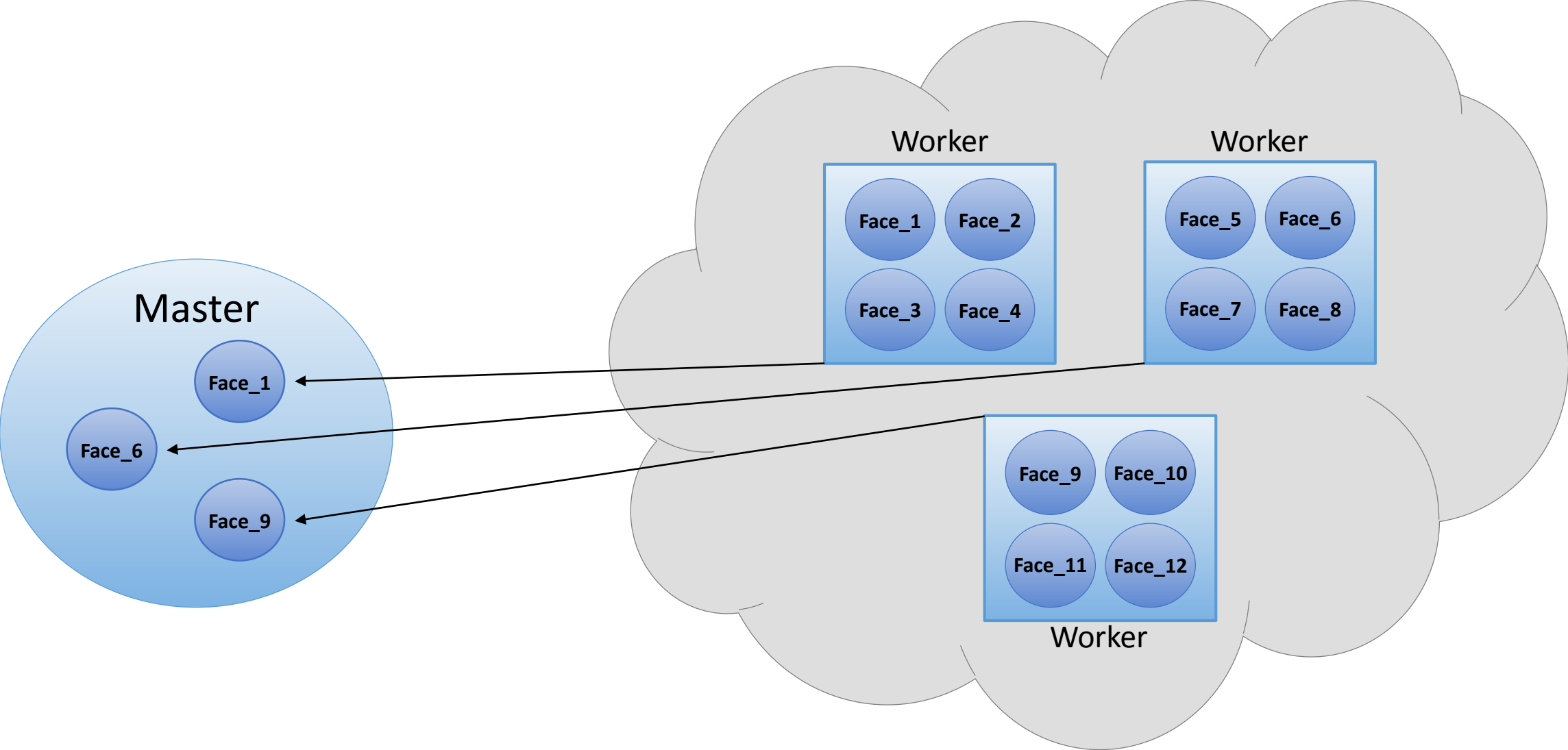 - Work Queue
  - Notre Dame Condor

Program Architecture

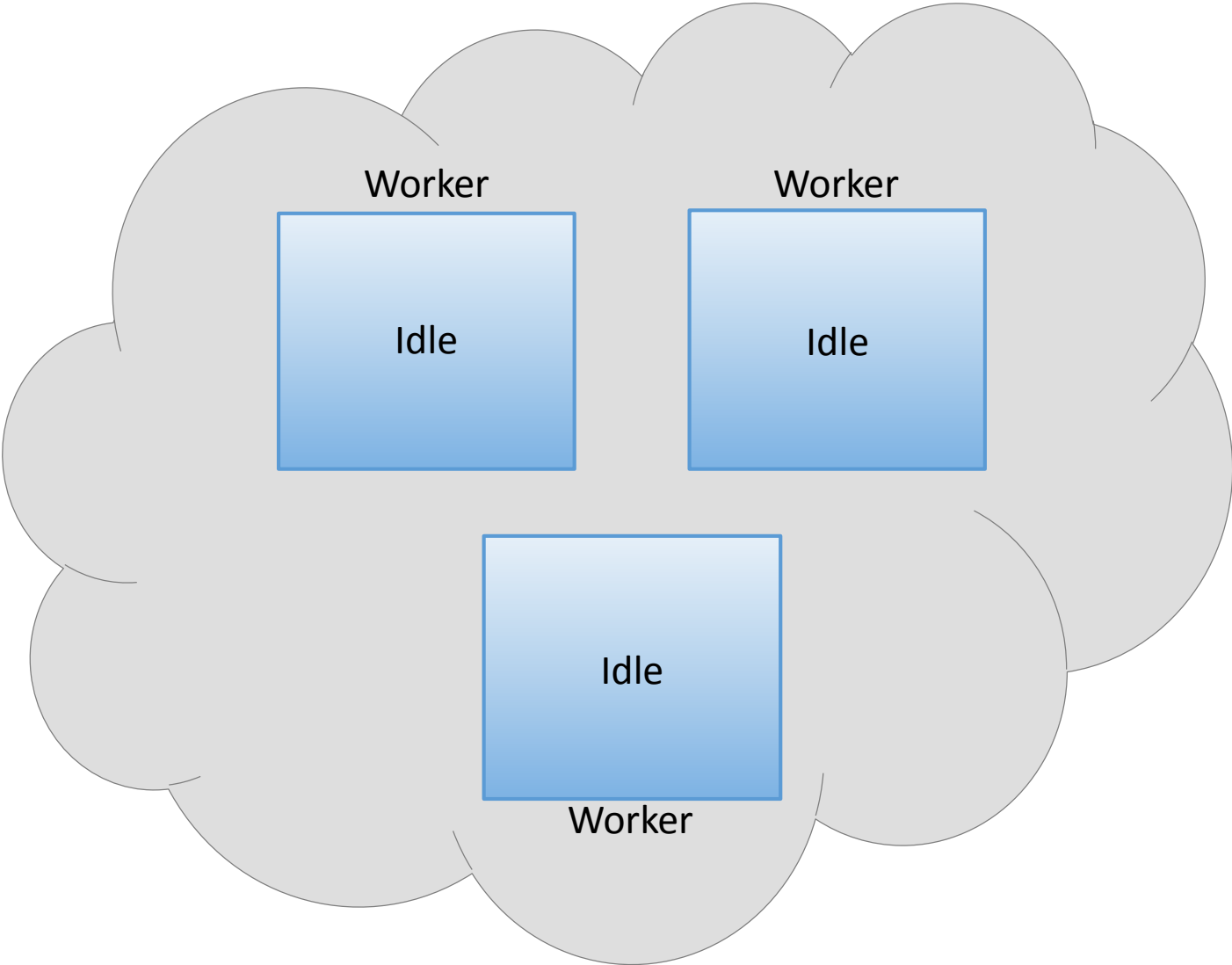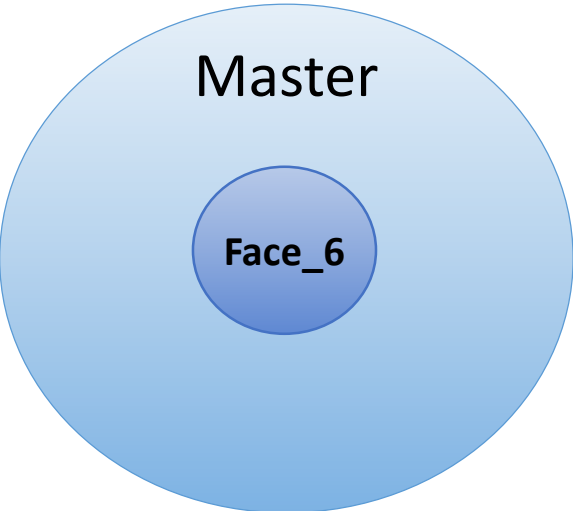- We utilized Work Queue and Condor to evaluate the Fisher method

A Closer Look

A Closer Look

A Closer Look

Results - Runtime

LFW Runtimes

Execution Time (s) vs Number of Classes

Legend: Tony Blair, Fred Huff, Mel Brooks

AT&T Runtimes

Execution Time (s) vs Number of Classes

Legend: S7, S3, S23
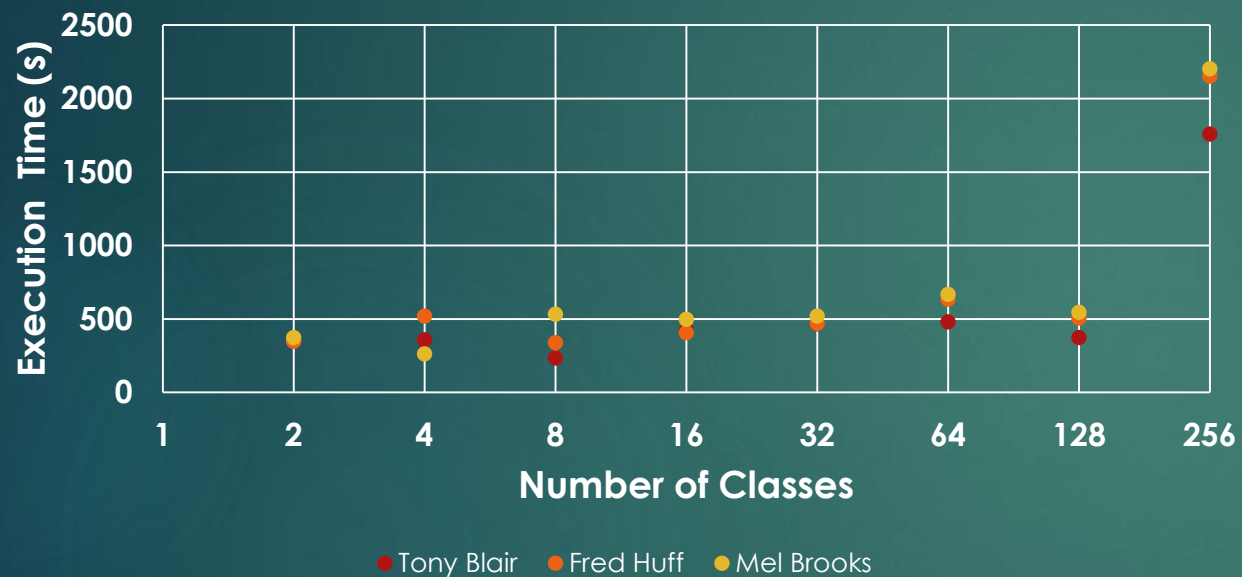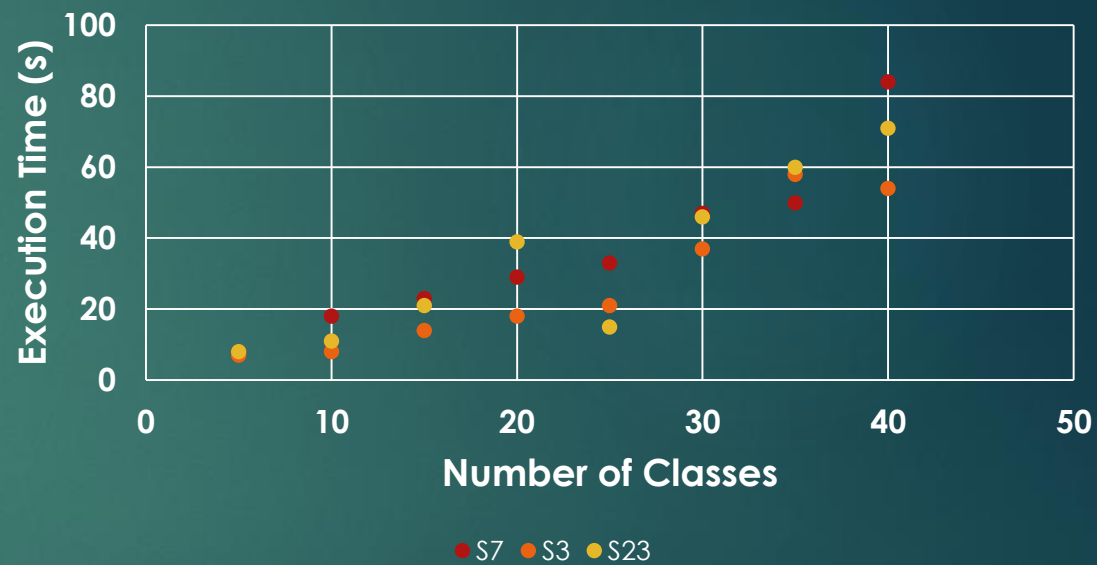
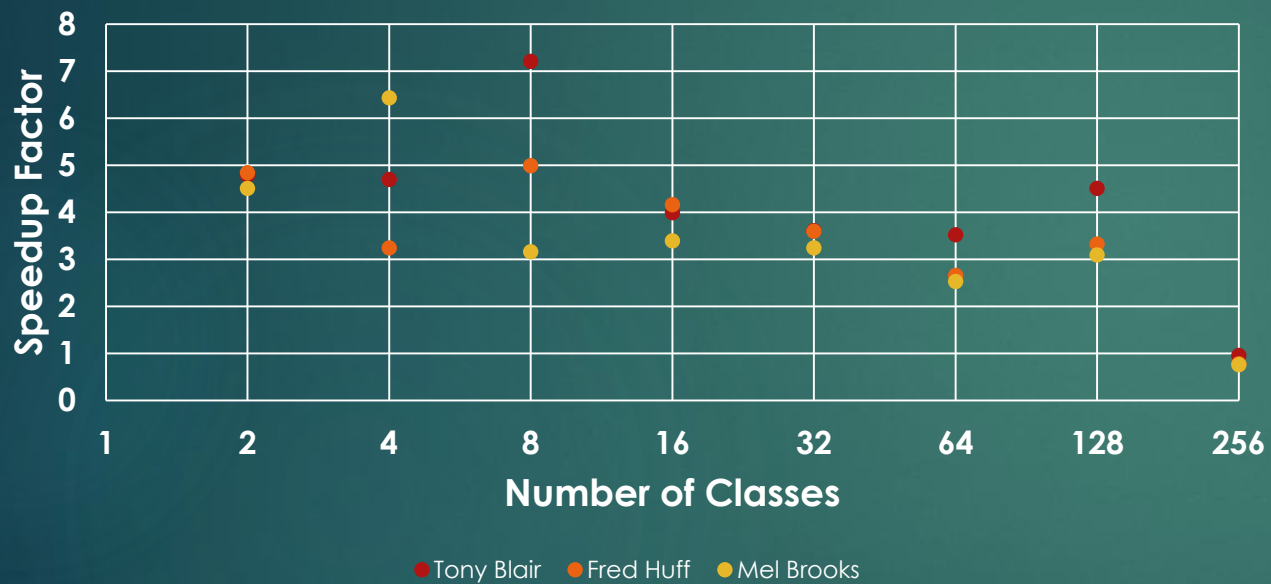# Results – Speed Up

LFW Speedup

AT&T Speedup

Thank you!

Questions?

Jeffrey Scott Postell

Jay Leno