

LUKE MORROW

lukemorrow.me

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EDUCATION

Master of Science in Computer Science

Clemson University, Anticipated Graduation: December 2018

GPA: 4.00/4.00

Concentration: Informatics and Scientific Computation

Selected Coursework: Intro to Artificial Intelligence, Applied Data Science, Distributed and Cluster Computing, Statistical Methods I, Statistical Methods II

Bachelor of Science in Computer Science

Clemson University, *May 2017*

GPA: 3.82/4.00

Honors: Cum Laude, President's List, Dean's List

TECHNICAL SKILLS

Programming/Scripting Languages: Python, R, SQL, Bash, C, C++, Java

Frameworks and Tools: Apache Spark, Scikit, Numpy, Pandas, Matplotlib, NLTK, R Shiny, ggplot2, Git, Subversion

DATA SCIENCE PROJECTS

Predicting Income from Census Data

- Created visualizations of data for exploratory data analysis using ggplot2.
- Trained a logistic regression model to classify the dichotomous target variable.
- Performed regularization using the Lasso method in R.

Google Stack Trace Analysis

- Analyzed 170 GB dataset of cluster data to find total number of unique jobs and longest running jobs.
- Implemented three Python scripts using Open MPI, Hadoop MapReduce, and Apache Spark to process data.

Adoption Incentive Program

- Cleaned and reduced the Adoption and Foster Care Analysis and Reporting System (AFCARS) data to key demographic variables in R.
- Precomputed all possible variable outcome counts with Apache Spark.
- Through R Shiny, created an explorative visualization using Leaflet and Dygraph packages.

Detecting Privacy Sensitive Objects

- Employed a convolutional neural network to perform semantic segmentation on private and public images to produce a bag-of-visual-words model.
- Visualized the co-occurrence network of the visual words using Gephi.
- Developed a proof of concept in Python of a random walk procedure derived from a published journal. The random walk algorithm iteratively refines privacy scores from initial labeling.

Data Science Job Skills

- Developed a Python script to mine data science job postings using Requests and BeautifulSoup libraries.
- Tokenized the job summaries using NLTK.
- Visualized the most common required job skills using matplotlib.

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EXPERIENCE

Clemson University, Clemson, SC

System Staff Graduate Assistant, Fall 2017-Present

- Assisted faculty and staff with technical issues on Unix, Windows, and Mac OS systems by utilizing excellent troubleshooting skills.
- Configured and installed new hardware upgrades.
- Maintained and updated software for over 100 School of Computing lab machines.

Lawrence Livermore National Laboratory, Livermore, CA

Cyber Defender Graduate Intern, Summer 2017

- Researched project related to software defined networks and securing industrial control systems.
- Performed feature engineering. Through the analysis of OpenFlow messages, developed a Python script utilizing the scapy library that would incrementally build flow graphs representing the operational state of the SDN.
- While attending classes in network security, explored new technologies that can be applied to computer security.
- Gained practical experience while presenting in a poster symposium.

Lawrence Livermore National Laboratory, Livermore, CA

Cyber Defender Intern, Summer 2016

- Researched project related to the security and privacy concerns of online video advertising, and learned to evaluate and analyze scientific results.
- Developed a Python script to capture and parse XML data to assess what data video advertisers record.

Clemson University

Google Glass Undergraduate Researcher, Clemson, SC, Spring 2015

- Developed a map application for Google Glass that would identify buildings in front of the user and display information about the location to the user through a GUI and text-to-speech.

ACTIVITIES

Upsilon Pi Epsilon, *Clemson University*, 2016-Present

Phi Kappa Phi, *Clemson University*, 2015-Present

National Society of Collegiate Scholars, *Clemson University*, 2014-Present