Luke Morrow

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EDUCATION

Master of Science in Computer Science
Clemson University, Anticipated Graduation: December 2018
GPA: 4.00/4.00
Selected Coursework: Intro to Artificial Intelligence, Applied Data Science, Distributed and Cluster Computing, Statistical Methods I, Statistical Methods II, Human-Centered Computing Research Methods

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, Java, Bash, C, C++,
Frameworks and Tools: Apache Spark, Scikit, Numpy, Pandas, Matplotlib, NLTK, R Shiny, ggplot2, Git

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 new hardware upgrades, and maintained software for over 150 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.

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.

DATA SCIENCE PROJECTS

Predicting Income from Census Data
- Created visualizations of data for exploratory data analysis using ggplot2.
- Performed regularization using the Lasso method in R. Trained a logistic regression model, and achieved a cross-validated accuracy of 85.2%.

Google Stack Trace Analysis
- Analyzed 170 GB dataset using to find total number of unique jobs and longest running jobs.
- Implemented three Python scripts using OpenMPI, Hadoop MapReduce, and Apache Spark to process data.

Adoption Incentive Program
- Cleaned the Adoption and Foster Care Analysis and Reporting System (AFCARS) data to key demographic variables in R.
- Computed all possible variable combination counts from 6,000,000 observations 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 30,000 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.