Patrick Williams

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Education:

Bachelor of Arts in Computer Science/Mathematics minor   Graduated May 2018
   Wofford College, Spartanburg, SC
   Study abroad: DIS in Copenhagen, Denmark (Fall 2016)
   GPA: 3.81 *(magna cum laude)*

Master of Science in Computer Science
   Wake Forest University, Winston-Salem, NC   Graduated May 2020
   GPA: 3.78

Technical Skills:

- **Programming Languages:** Python, C/C++, Java, SQL
- **Software Tools/Libraries:** Photoshop/Lightroom/Illustrator, Unix Shell, Git, pandas, scikit-learn

Certifications:

- IBM Data Science by IBM on Coursera. Certificate earned on January 7, 2021

Related Projects: *https://github.com/PWilliams520*

PaceMakers: Using Data Mining to Predict Average Heart Rate for Bike Rides   Aug 2019 – Dec 2019
- Used Python to implement moving average, logistic regression and other models to predict average heart rate based on a sample set of workout data for one individual
- Implemented logistic regression and random forest to classify workouts as high/low avg. heart rate
- Graphed results using Python and R, summarizing results in a paper

Parallel K-Means Clustering   Nov 2019 – Dec 2019
- Implemented k-means clustering algorithm from scratch in C++ and parallelized using OpenMP
- Ran strong and weak scaling experiments and summarized results in ACM formatted paper

ParkingFinder: Experimental Parking App for University Students   Feb 2019 – May 2019
- Proof of concept Android app that allows students to view capacities of parking lots on campus
- Connects to a Firebase database allowing users to have accounts and store favorite parking lots

Related Experience:

Private Computer Science Tutor   June 2020 – Present
- Provided hands-on tutoring for students on a case-by-case basis on topics such as basic and advanced Python, machine learning and statistical modeling

Graduate Assistant, Computer Science   Aug 2018 – May 2020
Wake Forest University   *Winston-Salem, NC*
- Provided hands-on tutoring for students taking Data Structures and Computer Systems
- Graded assignments and instructed Labs for students taking Data Structures and Computer Systems

Intern, Internal Audit, Capital Management   Jun 2019 – Aug 2019
BB&T   *Winston-Salem, NC*
- Planned and completed fieldwork during multiple phases of the audit of Funds Management

- Led meetings with Funds Management Model Production to address questions regarding received data
- Visualized data relevant to the audit by writing python scripts

Intern, Funds Management, Model Development   Jun 2018 – Aug 2018
BB&T   *Winston-Salem, NC*
- Introduced and implemented Git and GitLab with the Model Development teams
- Led hands-on workshops with team members to install, configure, and use Git
- Automated the organization of the Model Development codebase by writing python scripts

Department Tutor, Computer Science   Sept 2017 – May 2018
Wofford College   *Spartanburg, SC*

Research Assistant in NSF REU Program 1461166   June 2017 – Aug 2017
University of North Carolina at Charlotte   *Charlotte, NC*
- Key member of research team on the visualization of deep learning algorithms to understand the functioning of deep neural networks
- Implemented python libraries Keras and Tensorflow to modify an existing model that detects Wikipedia vandals from a dataset

Research Assistant for NSF Grant 1600060   Sep 2015 – Aug 2016
Wofford College   *Spartanburg, SC*
- Key member of research team on techniques and technologies for teaching cybersecurity concepts to undergraduate students, leading to lesson plans for a conceptual introductory cybersecurity course
- Experimented with different virtual network environments, including GENI and DETERLab
- Created original tutorials and labs for introductory computer science classes implementing GENI