Michael Tripp

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Experience

Data & Systems Analyst July 2023 – Present
Westminster College *New Wilmington, PA*

- Uphold high standards of data integrity through the daily maintenance and analysis of college data systems
- Write queries to pull data from institutional databases using SQL and other database tools
- Coordinate data collection for survey submissions and other data requests, including the IPEDS and Common Data Set surveys
- Communicate with campus partners to assess data needs

Lead Desktop Support Student Tech Feb 2020 – July 2023
Westminster College *New Wilmington, PA*

- Promoted to lead position in August 2021; supervised 6-8 student techs
- Planned and coordinated team member project activity
- Monitored daily performance of computer systems on campus

Computer Science and Mathematics Tutor Aug 2021 – May 2022
Westminster College *New Wilmington, PA*

- Led individual or small group instruction to improve academic performance
- Provided feedback to students using positive reinforcement techniques to encourage and build confidence in them
- Courses tutored include Introduction to Computer Science I & II, Calculus I & II, Discrete Mathematics, and Database Design and Development

Skills

Languages: C++, Python, Java, SQL, HTML/CSS
Developer Tools: GitHub, Visual Studio, VS Code, Spyder, CMake 3.29+, Microsoft Office
APIs & Libraries: OpenGL, NumPy, Tensorflow, Matplotlib
Project Management: Communication, Teamwork, Initiative, Leadership, Documentation

Projects

Wi-Fi Positioning System | *Python, Windows WLAN API* Jan 2023 - May 2023

- Developed python application to approximate user device location on a map of Westminster College campus
- Scanned nearby Wi-Fi hotspots for signal strength data using Windows WLAN API
- Employed Wi-Fi trilateration, the same underlying technique behind GPS, to approximate user location given estimated distances from signal strength data
- Provided potential revisions for future improved outcomes despite not achieving desired accuracies in location estimation

Bouncy Bouncy – Computer Graphics Application | *C++, OpenGL, Linear Algebra* Mar 2022

- Utilized OpenGL API to develop a GUI application that displays a smaller object bouncing around an outer boundary, where both object and boundary are drawn by the user
- Applied matrix transformations and vector arithmetic to translate and rotate the object about its center according to angle of collision
- Incorporated additional keyboard input to modify speed and rotation of the object as it moves

Neural Network Handwritten Digit Classification | *Python, TensorFlow* Mar 2023

- Developed various neural network machine learning models to identify handwritten digits given digit image data, with the best models achieving over **99% classification accuracies**
- Experimented with various hyperparameters across both dense and convolutional neural networks to find what combination yielded the best accuracy
- Discussed results of each model and analyzed which hyperparameters had greatest impact on accuracy

Education

B.S. in Computer Science and Mathematics New Wilmington, PA
Westminster College | *CGPA: 3.875 / 4.000* *Aug. 2019 – May 2023*

CompTIA Security+ ce Certification
CompTIA *Issued Aug 2022 - Expires Aug 2025*