Michael Tripp

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Experience

Data & Systems Analyst July 2023 – Present

Westminster College (PA)

- Automated reporting processes, cutting completion time by 32% with a projected 64% time reduction in future years
- Collaborated with team to optimize data integration with campus databases, reducing operations' manual workload
- Improved data correspondence with company vendors by establishing standardized protocols and SFTP data feeds
- Constructed queries to extract data from institutional databases using SQL and other database management tools
- Achieved "Titan Above and Beyond Award" for assisting financial aid system overhaul, including the implementation of auto-packaging and build-out of processes for admissions data integration

Lead Desktop Support Student Tech Feb 2020 – July 2023

Westminster College (PA)

- Supervised a team of 6-8 student techs and helped train new employees (promoted to lead position in August 2021)
- Improved overall team productivity by 66%, reducing the average weekly number of open work orders from 60 to 20
- Planned and coordinated team member project activity, creating action plans and project trackers to improve efficiency
- Communicated with faculty, staff, and students to determine the best solution for their computer related problems

Computer Science and Mathematics Tutor Aug 2021 – May 2022

Westminster College (PA)

- Tutored 5+ students weekly in *Intro to Computer Science I & II*, *Calculus I & II*, *Discrete Math*, and *Database Design*
- Led small group or individual instruction sessions, improving overall academic performance by 10%
- Provided constructive feedback and positive reinforcement to students to foster learning and build confidence in them

Skills

Languages: Java, C++, Python, SQL, HTML, CSS, JavaScript
APIs & Libraries: OpenGL, NumPy, TensorFlow, Matplotlib

Projects

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

- Developed python application to approximate user device location on a map of Westminster College campus
- Measured signal strength data from 15+ Wi-Fi hotspots around campus using Windows WLAN API
- Implemented Wi-Fi trilateration, as used in GPS, to determine user location from signal strength distance estimations
- Provided potential revisions for future improved outcomes despite not achieving desired accuracies in location estimation

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

- Built a GUI application using OpenGL that displays a user-drawn object bouncing within a user-drawn boundary
- Applied matrix transformations and vector arithmetic to rotate and translate objects based on collision angles
- Incorporated additional keyboard input to modify speed and rotation of the object as it moves

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

- Created machine learning models for handwritten digit recognition, achieving over 99% accuracy
- Optimized hyperparameters in both dense and convolutional neural networks to achieve best performance
- Discussed results of each model and analyzed which hyperparameters had the greatest impact on accuracy

The Burning Number of Directed Graphs | *Java, Graph Theory, Research* | GitHub Sep 2022 – Dec 2022

- Researched graph burning, a subfield of graph theory, and the burning number in the context of directed graphs
- Designed program that generates various orientations of directed acyclic graphs and outputs their burning number
- Wrote proofs for upper and lower bounds on the burning number as well as various other lemmas

Education

B.S. in Computer Science and Mathematics New Wilmington, PA

Westminster College | CGPA: 3.88 / 4.00 *May 2023*

CompTIA Security+ ce Certification Certificate Link

CompTIA *Issued Aug 2022 - Expires Aug 2025*