Nicholas Hamilton

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Education

Berea College   **Berea, KY**
Bachelor of Arts | **GPA:** 3.75/4.0   *Expected Graduation: May 2026*

- **Major:** Computer and Information Science
- **Relevant Coursework:** Software Design and Implementation, Data Structures, Database Systems, Discrete Mathematics.

Work Experience

Berea College Computer Science Department   **Berea, KY**
Computer Science Lead Teacher's Assistant   *January 2024-Current*

- Managed and coordinated a team of over 20 Teaching Assistants, organizing schedules and assignments to ensure comprehensive coverage of all course sections and optimal student support.
- Collaborated closely with faculty to align teaching materials with curriculum objectives, contributing to the continuous improvement of course content and delivery methods.
- Facilitated individual and group tutoring sessions to bolster students' understanding of fundamental programming concepts and software development practices, leading to improved problem-solving skills and project outcomes.
- Evaluated graded coding assignments, delivering detailed constructive feedback to foster students' proficiency in beginner Python concepts and enhance their code quality.
- Engineered an automated grading solution using Bash and Git, streamlining the review of student code submissions for a team of TA's by automatically identifying and checking out the most recent commits across various branches.

Virginia Tech Data Science for the Public Good   **Blacksburg, VA**
Data Science Intern   *May 2024-July 2024*

- Partnered with a multidisciplinary team to develop an XGBoost machine learning model using R programming language, applying advanced regression techniques to forecast food insecurity levels throughout the Continental United States with a 96.29% accuracy.
- Designed and implemented a user-friendly, interactive Shiny app to visualize complex food insecurity data and predictions, enhancing the accessibility and understanding of the project's findings for stakeholders.
- Demonstrated strong technical skills in data analysis, research, and problem-solving, while effectively communicating insights and presenting policy-specific solutions to stakeholders.

Unhoused Persons Initiative   **Berea, KY**
Full Stack Developer   *January 2024-May 2024*

- Led a team of four in the construction and development of a comprehensive database solution for the UP initiative, a local nonprofit serving the houseless population of Madison County, Kentucky.
- Architected and developed a full-stack, single-page web application using a PostgreSQL database for efficient data storage, a Flask backend for server-side processing, Axios for seamless client-server communication, and Vue.js with Vue CLI for a dynamic and responsive frontend, demonstrating proficiency in multiple cutting-edge web technologies.
- Implemented advanced database queries to generate targeted reports and integrated data export functionality using Python libraries, enabling users to seamlessly export database tables to Excel format for further analysis and reporting.
- Developed a secure user authentication system utilizing industry-standard password hashing techniques and robust session management to ensure data privacy, protect sensitive information, and provide a safe environment for user interactions.

Civic Engagement

Student Government Association (SGA)   **Berea, KY**
Liaison for the Non-Traditional Student Association (NTSA)   *September 2023-Current*

- Served as the primary link between the SGA and NTSA, advocating for the unique needs of non-traditional students and facilitating collaborative events and initiatives to enhance their campus experience.
- Acted as Vice-Chairperson of the Campus Improvement Committee, developing ideas and implementing innovative solutions to enhance student life, addressing key issues, and contributing to tangible improvements on campus.
- Optimized financial management by creating an Excel analytics tool, effectively administering a $32,000 budget, and increasing funding process efficiency.

Skills

Python, C++, R, SQL, JavaScript, Vue.js, Flask, PostgreSQL, Git, Machine Learning, Statistical Analysis, Data Visualization, Time Series Analysis