Xichen Zhang

Buffalo, NY | xichenzh@buffalo.edu | 609-210-6914 | www.linkedin.com/in/xichenzhang9

Education

University at Buffalo, The State University of New York
Bachelor of Arts in Mathematics: Computing and Applied Concentration, Expected May 2025
Relevant Courses: Introduction to Computer Science II, Survey of Differential Equations, Multi-variable Calculus, Linear Algebra, Data Structures, Data-oriented Computing, Discrete Structure, Calculus III, Intro to Numerical Analysis I, Computer Complexity and Algorithms

Technical skills

Programming Languages: Python, SQL, Java, R, HTML, CSS
Machine Learning Libraries: TensorFlow, Keras, Scikit-learn, Matplotlib, Numpy, Pandas, Streamlit, Ollama

Work Experience

Teaching Assistant, CS department, University at Buffalo **Sept 2024 - May 2025**

- Facilitated weekly review sessions covering complex topics such as algorithm analysis, improving student comprehension as evidenced by a noticeable increase in class participation
- Championed a **peer-to-peer mentorship** program, pairing struggling students with high-performing classmates; produced findings to fix the three biggest causes of student knowledge gaps

Security Analyst Intern, Merlin Dental Laboratory, Philadelphia **May 2024 - Aug 2024**

- Engineered a network security monitoring dashboard using **Splunk,** which correlated data from **10+ security tools**; became the go-to resource for junior analysts during code deployment across the organization
- Conducted comprehensive security audits and penetration testing to identify vulnerabilities and **implement corrective actions,** improving the organization's overall security posture to be the most secure lab in the region

Academic Projects

Deep Learning for Detecting Genetic Interactions within Rare Disease: Harvard Rare Disease Hackathon- Genomic Diagnostics Track(Grand Champion) **Feb 2025 – Mar 2025**

- Expedited genomic data processing by creating an automated workflow that handled 100 datasets each week, allowing researchers to focus on analysis rather than time-consuming data preparation tasks
- Developed a deep learning model to detect genetic interactions (epistasis) in rare diseases, leveraging advanced machine learning techniques to analyze complex genomic data

NoteWiz : UB AI Hackathon **Jan 2025 - Feb 2025**

- Streamlined the organization of student notes using **AI and Streamlit**, enabling **200 students** to upload and classify **2,000+** notes within the first week of deployment, promoting efficient learning
- Revamped AI response mechanisms through prompt engineering and **retrieval-augmented generation (RAG)**, ensuring higher contextual relevance and earning recognition as team's most innovative intern

Dynamic System Research : Research Assistant – Buffalo, NY **Oct 2023 - May 2024**

- Spearheaded the creation of **5 distinct computational models** to predict human responses to environmental changes, allowing for identification of key factors influencing decision-making during crises
- Modeled long-term behavioral trends with computational methods, **processing 10,000+ data points** weekly and delivering findings that were presented to key stakeholders to inform future research directions

Professional Certification

- Google Cybersecurity
- Machine Learning Specialization(Stanford&Deeplearning.AI)

Extracurricular Activities

NetDef Cybersecurity Competition, *System Competitor, Buffalo, NY* **Apr 2023 - May 2023**

- Earned **2nd** place in campus network defense systems against **14 teams**, eradicated invasive viruses in **Linux** and **Ubuntu** in a group of 4