Sepehr Akbari

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Education

Lake Forest College Aug 2023 - May 2026 *(expected)*
B.A. Computer Science & Data Science, Minor in Mathematics *GPA: 4.0*

UWC Mahindra College Aug 2021 - May 2023
International Baccalaureate Diploma Programme (IBDP) *GPA: 3.8*

Work Experience

IT Helpdesk Specialist Jan 2025 – Present
Lake Forest College *Lake Forest, IL*

- Collaborate with IT team to troubleshoot and resolve technical issues for students and faculty.
- Communicate effectively with non-technical users, simplifying solutions and empowering self-resolution.
- Support colleagues by sharing knowledge and assisting with complex technical challenges.

Front-End Developer Intern May 2024 – Aug 2024
TenacityAI *Chicago, IL*

- Developed and maintained the mobile app front-end using React Native.
- Managed user database, authentication, and integrating back-end components.
- Implemented OpenAI's GPT API, developing the app's ChatBot.
- Collaborated with the product team to implement user-focused features and a seamless user experience.

Intern Programmer May 2023 – Aug 2023
Elite Engineering Solutions *Tehran, Iran*

- Collaborated on the database migration project, integrating robust data structures.
- Developed personalized employee data profiles, replacing a basic Google login system.
- Enhanced data security and accessibility, through smart development decisions, and product choices.

Academic Experience & Research

Teaching Assistant (TA) | *Functional Programming, Computational Math* Dec 2023 – Present

- Conducting lab sessions and assisting with coding projects, and math concepts.
- Grading assignments and providing personalized guidance on course material.
- Collaborated with professors to design assignments and labs.

Evaluating Quantum Randomness | *Research Paper* Nov 2024 – Present

- Collaborating with faculty to develop a Quantum Random Number Generator (QRNG) and analyze its properties.
- Performing statistical tests to evaluate randomness and identify biases in quantum-generated numbers.
- Using feature vectors and SVM to classify quantum randomness, gaining insights into errors and predictability.

Tensor Energy Minimization | *Research Paper* Jan 2025 – Present

- Exploring tensor-based entangled quantum systems with virtual and real particles.
- Collaborating with faculty to compute the lowest energy state using a Hermitian operator and BFS.
- Analyzing applications of energy-minimized Matrix Product States (MPS) in the future.

Technical Skills

Languages: Python, Java, C, R, HTML, CSS, JS, PHP, SQL, Julia, Bash
Programming & Development: Web Development, App Development, Database Management, GUI Development, Frontend Development, APIs, UX/UI Design
Machine Learning & AI: ML (SVM, Random Forest, Decision Trees, Neural Networks, GNN, Regressions, PCA, Clustering), Computer Vision, Gradient Optimization, Data Interpolation
Mathematics & Data Science: Mathematical Modeling, Data Visualization
Systems & Tools: Linux Kernel, Version Control (Git), IBM Qiskit, Data Structures & Algorithms, Agile Development, Testing