

Sepehr Akbari

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EDUCATION

Lake Forest College

Aug 2023 - May 2027

B.A. Computer Science & Mathematics, Minor in Data Science

GPA: 4.0

Relevant coursework: algebraic geometry, tensor geometry, AI, ML, computer vision, statistics, linear algebra, algorithms, numerical analysis, probabilities, bayesian methods, etc.

Honors: Davis Scholar, Presidential Scholarship, Dean's List, Best All-Around Academic Record in Class of '27.

WORK EXPERIENCE

Software Engineer (Part-time)

Jul 2025 – Present

Applied Data Center

Lake Forest, IL

- Engineered and deployed modular full-stack solutions with FastAPI, Flask, Tailwind CSS, and ShadenUI to automate administrative tasks, significantly reducing processing time and enhancing operational efficiency.

Software Engineer Intern

May 2024 – Aug 2024

TenacityAI

Chicago, IL (remote)

- Engineered key user-centered features for a React Native mobile application, suitable for both iOS and Android.
- Integrated the OpenAI API to power an in-app chatbot, boosting user engagement through interactivity.
- Strengthened application security by implementing an OTP verification flow and secure data handling modules on a Postgres platform to resolve user on-boarding and data verification issues.

Software Engineer Intern

May 2023 – Aug 2023

Elite Engineering Solutions

Tehran, Iran

- Executed a database migration from MySQL to MongoDB, improving data retrieval efficiency and scalability.
- Optimized indexing and queries, reducing critical query response times by 15% and enhanced database reliability.
- Developed and deployed new features, including a Java Swing API endpoint for asynchronous data processing.

Software Engineer Intern

Jun 2022 – Aug 2022

Lavan Energy

Tehran, Iran

- Developed a key internal data-sharing frontend using a React.js and a modular Node.js/Express.js backend.
- Engineered RESTful APIs to enable data flow across the company, supporting a shift from legacy systems.
- Containerized the new application using Docker and collaborated on its AWS deployment to ensure high availability and a consistent environment.

SELECTED PROJECTS

Quantum DQN Agent | Python, Qiskit, PyTorch

Source Code

Implementation of a reinforcement learning DQN agent trained to synthesize the shortest possible quantum circuits that match a target quantum state or a complex unitary operator with high fidelity.

Heart Anomaly Framework | Python, PyTorch, TensorFlow, Transformers, CUDA

Source Code

Anomaly detection pipeline from heart beat audio inputs using deep learning as both a classification and regression task.

Objectness | C++, Go, Python, PyTorch, TensorFlow

Source Code

A module to detect objects and produce meaningful, context-aware crops from images, to enhance classification tasks.

TECHNICAL SKILLS

Programming Languages: Python, Macaulay2, Rust, Java, Go-lang, C, C++, R, SQL, Julia, Bash, JavaScript, PHP

AI/ML & Data Science: PyTorch, TensorFlow, Hugging Face, scikit-learn, scikit-image, OpenCV, Matplotlib, Pandas, NumPy, Generative AI, LLMs, Computer Vision, Natural Language Processing

Development: React, React Native, Node.js, Express.js, FastAPI, Angular, Flask, RESTful APIs, Tailwind CSS, ShadenUI, HTML, CSS, Bootstrap, Java Swing, Cypress

Tools & Platforms: Git, Docker, AWS, Google Cloud, Qiskit, Linux, VIM, CUDA

Core CS: Data Structures & Algorithms, Agile Development, Object-Oriented Programming (OOP), Test-Driven Development (TDD), CI/CD, Model Implementation