Aryaan Khan

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EDUCATION

Yale University   New Haven, CT
Bachelor of Science in Computer Science, Minor in Data Science   *GPA: 3.92; Expected Graduation: May 2025*
Relevant Coursework: Data Structures and Algorithms, Systems Programming, Distributed Systems, Full Stack Web Programming, Discrete Math, Probability Theory, Multivariate Statistics

EXPERIENCE

Software Engineer Intern   August 2023 – Present
Garmin   *Olathe, KS*
- Architect embedded software in **C** for an airborne traffic system and design aerial collision avoidance algorithms
- Implement flight simulations in **.NET (C#)**, **C++**, and **Python** that rigorously test active/passive surveillance features

Software Engineer Intern   June 2023 – August 2023
Savvas Learning Company   *Los Angeles, CA*
- Developed a dashboard that visualizes development performance in an Agile environment, including deployment frequency and release failure rate, using **React.js**, **TypeScript**, and **Node.js**
- Analyzed development data and provided feedback to engineering teams using the dashboard, increasing average team efficiency **by 25%** and reducing failures in production **by 20%**
- Deployed a containerized **ETL pipeline** with **AWS Lambda** and a **MySQL** database with **Amazon RDS**, consisting of a Python script that collects and stores development data weekly

Software Developer   August 2022 – May 2023
Yale Computer Society   *New Haven, CT*
- Developed and supervised a platform with over 15 student developers for exploring course information and evaluations at Yale, handling **over 1 million requests** per semester
- Built a semester workload calculator using **React.js**, **TypeScript**, and **MySQL** to streamline students' course planning and workload assessment, resulting in **6000+ users**

Data Scientist Intern   May 2022 – May 2023
Yale School of Medicine   *New Haven, CT*
- **Automated 90%** of the lab's data analysis by creating a Python program that parses large datasets using **Pandas** and generates **cluster models** of differentially expressed genes
- Generated **10+ published figures** using **Matplotlib** that identify molecular mechanisms underlying Alzheimer-like diseases, earning **co-authorship** of two peer-reviewed publications

PROJECTS

Key-Value Sharded Service | *Go*
- Engineered a key-value sharded storage service with **dynamic shard distribution** across multiple servers, ensuring a **scalable**, **load-balanced**, and **fault-tolerant** infrastructure
- Improved throughput **by 30%** by implementing a cache layer with hot key detection, optimizing read/write operations

Memory Allocation Debugger | *C*
- Built a debugger for memory allocation which tracks heap usage, memory leaks, and heaviest memory allocations
- Constructed an advanced reporter that detects integer overflow, invalid/double frees, and writes past memory bounds

Archaeological Site Explorer | *React.js, TypeScript, Flask, SQLite, Python*
- Designed a website with a team of five developers to provide a tool for exploring the archaeological site Dura-Europos
- Implemented an interactive map allowing users to learn about **10,000+ artifacts** and access **100+ images** of the site
- Received unanimous acclaim from **10 distinguished** researchers from the field regarding ease-of-use and utility

SKILLS

Languages: Python, C, JavaScript, Go, C#, C++, HTML, CSS, SQL
Technologies: AWS, React.js, TypeScript, Node.js, Git, MySQL, .NET, Flask, Docker, Pandas, Matplotlib