KATHIR MEYYAPPAN

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EDUCATION

University of Chicago - Mathematics + Computer Science ; GPA: 3.96   *September 2022 - May 2026*

Relevant Coursework: Systems Programming, Database Systems, Machine Learning, Operating Systems, Data Structures, Algorithms, Abstract Algebra, Real Analysis, Linear Algebra, Discrete Mathematics, Mathematical Logic, Probability Theory
Leadership/Involvement: Algo Group (Board Member), Japanese Animation Society (Vice President), Tech Team
Awards: Dean's List 2022-2024, 3x AIME Qualifier

EXPERIENCE

Amazon Web Services   **Palo Alto, CA**
Software Development Engineer Intern   *June 2024 - August 2024*
- Architected DataZone's Entity Store web server, enabling implementation of REST-based database communication protocols.
- Optimized database performance using roaring bitmaps (Golang) to speed up numeric aggregation queries by over 900%.
- Implemented histogram generation feature in backend, allowing more granular client side access to filterable numerics.
- Created 7 performance critical endpoints, enabling access to internal DynamoDB and S3 storage frameworks.

Institute of Politics   **Chicago, IL**
Software Developer   *October 2023 - January 2024*
- Identified malicious false-citation practices in ~200 political flyers with University of Chicago Institute of Politics.
- Utilized LLM (Llama2) + regex to identify 1000+ misinformation sources and pipeline data into Google Drive workflow.

Dräger   **Andover, MA**
Software Engineer Intern   *June 2023 - September 2023*
- Solved defect tracking bottleneck in product lifecycle by automating issue reporting, reducing Jira traffic by 85%.
- Developed, documented, and deployed internal desktop application that streamlines quarterly FDA communication process.
- Wrote OpenXML scripts in backend to execute 2500+ JQL queries per day (in Jira database) to generate and file reports.

Valtitude   **Woburn, MA**
Intern   *June 2021 - August 2021*
- Utilized R graphics packages and ARIMA to predict trends in multi-faceted client data in the supply chain sphere.
- Documented prediction utility of various time series processes in demand forecasting, visualizing and presenting findings.

PROJECTS

MangAlert.com - Manga Serialization Notification Service | *JavaScript, Python, Google Cloud Platform, Firebase*
- MangAlert notifies 50+ users per month (via email and website) of followed anime/manga serializations that have ended.
- Built REST API with Node (Express) and deployed + hosted site, scheduled database/email updates, etc. using GCP.
- Securely hosted user data and media info in Firebase and displayed profile data to users with a React + TypeScript frontend.

CrustyDB | *Rust, database systems, systems programming*
- Wrote various critical components for a relational database system including heapfile/storage manager, query operators, etc.
- Implemented systems-level optimizations such as disk-based hash indexing system and buffer pool to improve performance.

SKILLS

Programming Languages: Python, C, C++, Rust, Go, JavaScript, C#, R, SQL
Tools/Tech: .NET, AWS, Google Cloud Platform, Node.js, Git, SVN, Jira, Firebase, Microsoft Visual Studio, OpenCV
Languages: English, Japanese, Tamil