

Mahendra Kumar

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EDUCATION

University Of Maryland, College Park

Bachelor of Science in Computer Science | GPA: 3.9/4.0
Minor in Statistics

August 2022 – May 2026

Relevant Coursework: Data Structures, Algorithms, Computer Systems, Parallel Computing, Data Science, Machine Learning, Multimodal Deep Learning, NLP, Linear Optimization, Linear Algebra, Statistics

TECHNICAL SKILLS

Languages: Python, Java, C, Assembly, SQL, JavaScript, R

Frameworks: Node.js, Express, React, FastAPI, TensorFlow

Developer Tools: Docker, Git, Github, Google Cloud Platform (GCP), Postman

Libraries/Databases: pandas, NumPy, Scikit-learn, Matplotlib, CUDA, MongoDB

EXPERIENCE

Department of Computer Science, UMD

February 2025 – Present

College Park, MD

ML Research Assistant

- Placed 1st in the FinRL Leaderboard Competition (Task 3); co-authored a peer-reviewed [IEEE IDS 2025 paper](#).
- Finetuned language models (Qwen2.5 and DeepSeek-R1 1.5B) via Supervised Fine-Tuning, Direct Preference Optimization, and Reinforcement Learning on 20+ financial NLP datasets.

Department of Computer Science, UMD

January 2024 – Present

College Park, MD

Teaching Assistant

- Lead weekly 50-minute lab sessions for 36+ students across 4 semesters, teaching Java OOP, data structures, and Computer Systems (C, memory management, assembly, Unix).
- Mentor students in debugging, problem-solving, and core concepts during office hours, and evaluate assignments.

Sitare Foundation

February 2023 – Present

Palo Alto, CA

Information Technology Manager

- Secure hundreds of student tablets with MDM software and perform tasks like bulk email creation, report card generation, mass email and SMS distribution, and attendance tracking from Zoom logs.
- Serve as webmaster, managing the organization's website and Google Workspace for 500+ members.

HPE Juniper Networking

May – August 2025

Sunnyvale, CA

Software Engineering Intern

- Built an automated pipeline to map 22K+ OpenConfig paths to Junos CLI commands by using Sentence Transformer embeddings and RAG (Retrieval-Augmented Generation), expanding coverage by 40x.
- Reduced manual validation time from months to under 2 days, significantly accelerating network configuration verification.

Beans.ai

July – August 2024

Palo Alto, CA

Software Engineering Intern

- Designed a semi-automated feedback system that validates model predictions, flags misclassified images for review, and automatically updates datasets in Google Cloud Storage, enabling continuous retraining and model improvement.
- Enhanced the accuracy of the package-service rating model by 12%, improving reliability of automated image evaluation and reducing manual intervention for data curation.

KlearNow.ai

June – August 2023

Santa Clara, CA

Software Engineering Intern

- Optimized system performance by containerizing the database with Docker, migrating to a local environment, reducing remote dependencies, and improving query execution time by 80%.
- Enhanced API documentation with OpenAPI YAML specifications using Stoplight, ensuring well-structured endpoints.

PROJECTS

GPU-Accelerated Game of Life | C++, CUDA, GPU

- Implemented workload striding across threads/blocks for scalability and maximizing efficiency.
- Optimized Conway's Game of Life using GPU parallelism, achieving 10x faster runtime on large grids.

MicroCaml Interpreter | OCaml, Git, Regex

- Built a dynamically typed OCaml subset with runtime type-checking.
- Developed Lexer, Parser, and Interpreter for AST generation and evaluation.

AWARDS

Swami Vivekananda Scholarship

August 2022 – Present

- Full college tuition merit scholarship for an economically disadvantaged student.

Sitare Foundation Scholarship

May 2016 - May 2022

- Six-year full scholarship covering middle and high school for a high-potential underprivileged student.