Mahendra Kumar

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EDUCATION

University Of Maryland, College Park — August 2022 – May 2026
Bachelor of Science in Computer Science | GPA: 3.94/4.0
Minor in Statistics
Relevant Coursework: Data Structures, Algorithms, Computer Systems, Parallel Computing, Data Science, Machine Learning, Multimodal Deep Learning, Statistics

EXPERIENCE

Department of Computer Science, UMD — February 2025 – Present
ML Research Assistant — *College Park, MD*
- 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
Teaching Assistant — *College Park, MD*
- Lead lab sessions for **36** students in Data Structures and Computer Systems.
- Mentor students in debugging, project planning, and exam preparation.

HPE Juniper Networking — May – August 2025
Software Engineering Intern — *Sunnyvale, CA*
- Built an automated pipeline mapping **22K+** OpenConfig paths to Junos CLI commands using Sentence Transformer and RAG, expanding coverage by **40x**.
- Reduced manual validation time from months to under **2** days, accelerating network test workflows.

Sitare Foundation — February 2023 – May 2025
Information Technology Manager — *Palo Alto, CA*
- Serve as webmaster, managing the organization's website and Google Workspace for **500+** members.
- 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.

Beans.ai — July – August 2024
Software Engineering Intern — *Palo Alto, CA*
- Designed a semi-automated feedback system to validate predictions, auto-update datasets, and retrain models.
- Improved package-service rating model accuracy by **12%**.

KlearNow.ai — June – August 2023
Software Engineering Intern — *Santa Clara, CA*
- Achieved **80%** system efficiency improvement by containerizing databases with Docker.
- Enhanced API documentation and usability using OpenAPI YAML.

PROJECTS

GPU-Accelerated Game of Life | *C++, CUDA, GPU* — November 2024
- 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* — March 2024
- Built a dynamically typed OCaml subset with runtime type-checking.
- Developed Lexer, Parser, and Interpreter for AST generation and evaluation.

TECHNICAL SKILLS

Languages: Python, Java, C, C++, Assembly, Rust, SQL, TypeScript, JavaScript, R
Frameworks: Node.js, Express, React, FastAPI, TensorFlow
Developer Tools: Docker, Git, Github, Google Cloud Platform (GCP), Postman, Jira
Libraries/Databases: pandas, NumPy, Scikit-learn, Matplotlib, CUDA, MongoDB

AWARDS

Swami Vivekananda Scholarship — August 2022 – Present
- Full college scholarship awarded for academic excellence to an economically disadvantaged student.

Sitare Foundation Scholarship — May 2016 - May 2022
- Six-year scholarship providing full tuition for middle and high school to a high-potential underprivileged student.