Tejas Ramesh

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Education

George Mason University January 2025 - May 2029 (Expected)
Doctor of Philosophy in Computer Science

George Mason University August 2023 – May 2025
Master of Science in Computer Science *GPA: 3.9/4.0*
Awards/Recognition: Outstanding Academic Achievement Award

College of Engineering Guindy, Anna University August 2017 - April 2021
Bachelor of Engineering in Computer Science and Engineering *GPA: 3.39/4.0*

Abu Dhabi Indian School, Abu Dhabi September 2013 - May 2017
High school-Affiliated to Central Board of Secondary Education, India *GPA: 3.78/4.0*

Relevant Coursework

Courses: Machine Learning, Big Data Analytics, Operating Systems, Analysis of Algorithms, Software Engineering, Object-Oriented Programming, Data Structures, Calculus, Probability and Statistics, Principles of Management, Natural Language Processing, Database Systems

Skills and Certifications

Languages: C/C++, Python, SQL, Java, Bash, MongoDB Query Language (MQL), HTML, JavaScript
Tools: Git/GitHub, MS Excel, Hive, Oozie, Databricks, Jupyter, Tableau, Power BI, Amplitude, Putty, HPCToolkit, Hatchet, Codee, Selenium

Certifications: IBM-Data Science Professional Certification, AI Engineering Professional Certification, Applied AI Professional Certification, C-DAC-Quantum Computing

Projects

Triton-Viz: A Visualization Toolkit for GPU Programming on Triton Link | *Python*

- Triton-Viz is an innovative GPU Programming Visualization Tool developed to enhance the understanding of GPU operations through Triton, a programming language by OpenAI.
- This tool offers valuable insights into kernel execution, memory management, and the optimization of parallel algorithms.
- The tool visualizes fine grained tensor operations across multiple blocks enabling users to understand how their custom GPU kernel gets executed in the backend.

Papers

Tejas Ramesh, Alexander Rush, Xu Liu, Binqian Yin, Keren Zhou, Shuyin Jiao. *Triton-Viz: Visualizing GPU Programming in AI Courses.* In The Technical Symposium on Computer Science Education (SIGCSE TS), 2025

Bowen Cui, **Tejas Ramesh**, Oscar Hernandez, Keren Zhou. *Comprehensive Evaluation of LLMs in HPC Code Performance Optimization.* In The Workshop on AI Assisted Software Development for HPC (AI4Dev at ICPP), 2025

Experience

Oak Ridge Institute for Science and Education | *Graduate Research at ORNL (GRO)* May 2025 – July 2025
Took part in the internship program-Graduate Research at Oak Ridge National Laboratory, Tennessee

Research Areas: High Performance Computing, Trace Analysis for Energy Consumption Estimation

Department of Computer Science-George Mason University | *Graduate Teaching Assistant* January 2025 – Present
SWE619-Object-Oriented Software Specification and Construction

- Core concepts: Software engineering principles in Java.

COMP 511-Computer Programming Foundations II

- Core concepts: Data Structures and Algorithms in Java.

Roles and Responsibilities

- Conducting weekly office hours to help students with their questions.
- Grading homework assignments.

Department of Computer Science-George Mason University | *Student Researcher* March 2024 – December 2024
Large Language Models (LLMs)

- Performance benchmarking serial and parallel C/C++ codes.
- Comparing performance enhancements suggested by static code analyzers with those of LLMs.
- Focused on building LLM agents that tackle Natural Language (NL) Intent to Code generation tasks in the High performance Computing (HPC) Domain.
- Implemented a capable NL-bash command LLM based on Code Llama by Meta.

Tensors and Visualization

- Conducting research on simplifying AI education.
- Visualizing fine grained Tensor operations of kernels written on Triton (developed by OpenAI) in a highly abstracted GPU programming backend execution. Helping in better understanding of AI algorithms.

LatentView Analytics Ltd. | *Analyst* August 2021 – July 2023
Worked with the Email Marketing and Product Analytics team of a Major American software giant from San Jose,CA.

- Created and maintained multiple business dashboards to track KPIs that solved business problems.
- Analyzed various aspects of user's product engagement and conducted full fledged customer journeys.
- Automated multiple workflows in Hive and Databricks using Python.

Achievements: SPOT Award X 1, Encore Award X 1

Career Hiatus May 2021 – July 2021
Transitioning to full-time work post completion of Bachelors degree.

- Spent time in up-skilling for the full-time role.
- Satisfying pre-employment requirements as part of the hiring process and awaiting confirmation on onboarding formalities from the employer.

Career Hiatus May 2017 – July 2017
Transitioning to Bachelors degree post completion of High School.

- Satisfying admission requirements set by the university.