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.
- The Triton-Viz repository has ∼235 stars on GitHub and the Triton Puzzles repository based on Triton-Viz has ∼2k stars.

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 Worshop at ICPP), 2025

Experience

Department of Computer Science-George Mason University | *Graduate Teaching Assistant* August 2025 –Present
CS112-Introduction to Computer Programming

- Core concepts: Programming in Python.

Roles and Responsibilities

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

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 – May 2025
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.