Vedu Mallela

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Education

Georgia Institute of Technology Atlanta, GA

Bachelor of Science, Computer Science ***Expected May 2025***

- Artificial Intelligence and Computer Graphics Concentration
- Relevant Coursework: Data Structures and Algorithms, Design and Analysis of Algorithms, Computer Graphics, Artificial Intelligence, Game AI, Robotics and Perception, Information Visualization
- Extracurricular Activities: GreyHat Cybersecurity Club, Georgia Tech Wreck Racing, AI + Medicine Society

Experience

Software Engineering Intern 05/2024 - Present

TikTok *San Jose, CA*

- Led the consolidation of a large-scale causal inference codebase, optimizing performance and reducing technical debt by 20%. Enabled more efficient experimentation with 5k+ daily experiments.
- Developed and owned a risk assessment module for the experimentation platform, reducing risk detection time by 35% and increasing decision-making accuracy for cross-functional teams.
- Implemented advanced backdoor control techniques to mitigate confounding variables in A/B tests, enhancing model robustness and reducing false positives by 25%.

Research Assistant 09/2022 - 05/2024

College of Computing, Georgia Institute of Technology *Atlanta, GA*

- Designed and implemented a resource scheduler for supercomputing infrastructure using Google APIs and SLURM, reducing unnecessary uptime by 30%.
- Published findings at SEHET ACM 2023, contributing to advancements in AI hardware acceleration for RISC-V.

Research Intern 08/2020 - 12/2022

MIT Computer Science and Artificial Intelligence Laboratory *Cambridge, MA*

- Engineered computer vision segmentation models, aiding 3,000+ neuroscientists in clinical and wet lab research.
- Published a 3D brain visualization software tailored for rendering clinical biomarker data, providing valuable insights to neuroscientists and helping them communicate results.

Visiting Undergraduate Research Intern 04/2021 - 08/2022

Harvard John A. Paulson School of Engineering and Applied Sciences *Cambridge, MA*

- Developed tree visualization software for in-vitro fertilization datasets, implemented k-means clustering and edit distance metrics to build a visualization dashboard for clinical researchers.
- Developed a web application using d3.js for gathering and visualizing high volume medical datasets.

Research Intern 05/2020 - 03/2021

Stanford University Compression Forum *Stanford, CA*

- Developed a sentiment analysis NLP for a COVID-19 news aggregator using Flask and PyTorch, providing enhanced regional pandemic updates.
- Partnered with Stanford Journalism to provide enhanced regional pandemic updates to localities worldwide.

Projects

EMADE | *PyTorch, Numpy, Keras* August 2023 – Present

- EMADE (Evolutionary Multi-objective Algorithm Design Engine) is a software for developing multi objective genetic algorithms to solve complex problems.
- Adding transfer learning primitives to allow our algorithms to solve problems translating across domains.
- Working with self driving motion datasets to run generative path planning with assistance from genetic algorithms.

Technical Skills

Languages: Python, JavaScript, Java, C#, C++, C
Frameworks: Flask, Unity, Angular, React, BootStrap, MongoDB, D3.js, GraphQL
Developer Tools: Git, Anaconda, Docker, Firebase, Jupyter, Figma, Postman, JUnit, SLURM
Libraries: Numpy, Scikit-Learn, PyTorch, Blender, Node.js, Pandas, OpenCV, Matplotlib, OpenGL