Pawan Jayakumar

github linkedin email Website

Education

University of California San Diego Sept 2024 - Dec 2025
Master of Science in Computer Science

University of Virginia Aug 2020 - May 2024
Bachelor of Science in Computer Science *GPA: 3.83/4.0*

Coursework

Software Engineering, Data Structures and Algorithm Design, Operating Systems, Machine Learning, Parallel Processing, Reinforcement Learning, Hardware Accelerators, Robotics, Probability, Linear Algebra

Projects

PyTorch Architecture Optimization Contributor May 2024 - Present
- Collaborating with open source contributors to integrate 1.58 (trinary) bit quantization to Torchao
- Developed general bit-packing functions to reduce memory cost of sub-byte quantized network weights and activations anywhere between 2-4x

Slider Mar 2022 - Mar 2023
- Co-developed an award winning puzzle game called Slider which has over 1000 wish-lists and will be published in summer of 2024

Policy Evaluation Benchmark Feb 2023 - Present
- Collaborating with Shuze Liu on a benchmark for policy evaluation algorithms such as ROS, BPS and ODI
- Utilized Slurm job scheduler and Weights and Biases to train models across many devices

Meta Data Analytics Case Competition Finalist Nov 2023
- Conducted an investigation into Netflix media trends and using Principle Component Analysis on several data sets
- Executed a thorough competitor analysis in key markets, developing a differentiated entry strategy for a new streaming service, culminating in a 10-page slide deck deliverable.

Experience

University of Virginia | *Machine Learning Researcher* Sept 2023 - Dec 2023
- Worked with Prof. Shangtong Zhang to create a proof of concept showcasing how reinforcement learning can reduce the energy consumption of a GPS by 10% in a simulated environment.

Capital One | *Software Engineering Intern* Jun 2022 - Aug 2023
- Designed and deployed a dataset discussion page which is used by over 15,000 monthly associates
- Optimized local development environment which resulted in saving hundreds of hours of development time
- Designed and deployed an automated cloud application to track and display changes in vulnerability reports to Capital One associates
- Succesfully and respectfully challenged others' designs, peer reviewed pull requests, and humbly accepted criticism on code written

University of Virginia | *Teaching Assistant* Aug 2022 - Dec 2022
- Led 100+ students in laboratory sessions and office hours by conducting code reviews and peer mentoring

University of Virginia | *Machine Learning Researcher* Dec 2020 - May 2021
- Worked with Prof. Hongning Wang on machine learning network architectures using crowd sourced data, achieving a 14% increase in classification accuracy over baseline methods

Skills

Languages: Python, C/C++, CUDA, Triton, SQL, C#, JavaScript, HTML/CSS
Tools: Git, Jenkins DevOps, Docker, Unix, Node.js, AWS Lambda, AWS DynamoDB
Frameworks: PyTorch, React, Angular, RestAPI, GraphQL, Tailwind