

Amil Agrawal

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EDUCATION

Brown University

August 2024 - May 2028

B.S. Computer Science, Mathematics (GPA: 4.00/4.00)

- Awards: USACO Gold, US Presidential Scholar Nominee, VRC Robotics Team #1/5K+ Autonomous Program Ranking
- Organizations: Brown Space Engineering, Brown ICPC Team, Forecasting Club, Researcher @ Brown AI Safety Team

EXPERIENCE

Snap Inc.

May 2026 - August 2026

Machine Learning Engineer Intern

- Researched interaction sequence modeling in Snap's user understanding foundation model used in ~1B user feeds
- Architected MMoE-routed FCN/DCNv3 layers for multi-task content ranking, capturing high-order feature interactions
- Built multi-objective RL optimizer for content ranking model heads, learning personalized tradeoffs by optimizing weights with Lagrangian-constrained policy search, creating strong share and active user gains on short-form content

AMD

January 2026 - May 2026

AI/ML Software Engineer Intern

- Researched cache-aware prefill/decode scheduling optimizations for distributed LLM serving on AMD GPU clusters
- Created post-training infrastructure and kernel-focused SFT dataset to fine-tune locally served LLMs for confidential next-generation GPU performance engineering, accelerating ROCm development and open source collaboration
- Developed end-to-end evaluation and benchmarking pipelines for validating new Triton kernels and ROCm AI Tensor Engine (AITER) optimizations, providing autonomous categorization and analysis of performance gains and regressions

Raytheon (RTX)

May 2025 - August 2025

Software Engineer Intern

- Researched and developed multi-agent reinforcement learning models (MA-PPO + GNN) to coordinate real-time autonomous robot swarm patterns and behaviors, embedded into mission systems in C/C++ for live flight testing
- Designed hardware testbench loop to validate swarm consensus against real-world latency and adversarial interference
- Engineered efficient vectorized cluster-scale RL environments and pipelines to accelerate multi-agent training with realistic flight context generation, decreasing simulation times by more than 60% compared to previous sim engine

Bloomfilter

June 2023 - August 2023

Software Engineer Intern

- Created efficient containerized software pipelines to unify software build processes with Docker and Gitlab CI/CD
- Built OpenAI API-based chatbot with intelligent auto-routing to Slack teams, reducing support response times by 60%

PROJECTS

wild-env

Python, PyTorch, C++, PettingZoo

- Designed SotA wildfire simulation environment to train multi-agent RL policy to coordinate and plan aerial suppression
- Paired deep WENO5 model with light GPU-scale rollout surrogate, validating transfer on frozen historical benchmarks

SysVRC

C++, ROS 2, Ansible, Linux

- Developed Linux-based robot sim testbed in ROS 2 + Gazebo to model sensing, motion, and controls pre-integration
- Optimized 120 Hz control loop with bounded-latency scheduling for hardware-consistent sensor/actuator timing

SKILLS

Programming Languages: Python, C, C++, Java, Go, TypeScript, JavaScript, C#, SQL, R, Assembly, HTML, CSS

Libraries and Frameworks: PyTorch, TensorFlow, NumPy, Pandas, Redis, Flask, GraphQL, Node.js, React, MongoDB

Developer Tools: Amazon AWS, Git, Ansible, Docker, Vim, NVIDIA CUDA, PostgreSQL, Firebase, Jira, Jupyter Lab

Concepts: Databases, Machine Learning, Operating Systems, Research, Full-stack, Frontend, Backend, NLP, Data Analysis