

Sreevardhan Atyam

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EDUCATION

University of Illinois Urbana-Champaign Champaign, IL
Bachelor of Science in Computer Science & Physics, Minors in Math and Statistics | GPA 3.85/4.00 Aug. 2024 – May 2027
Relevant Coursework | Data Structures, Algorithm Design, Quantum Information Theory, Abstract Linear Algebra, Machine Learning, Classical Mechanics, Relativity & Math Applications, Computer Architecture, Numerical Methods
Extracurriculars | Project Associate @ Enactus, Executive Board Member @ buildIllinois
Scholarships | James Scholar, FIRST Engineering Scholar, George A. Foster Scholar

Columbia University - School of Engineering and Applied Science New York, NY
Machine Learning I, Graduate Level Coursework Jun. 2025 – Aug. 2025

INDUSTRY

State Farm Insurance | Bloomington, IL June 2024 – Present
Software Engineering Intern | SQL, React, TypeScript, Git, REST API, Terraform, AWS Jun. 2025 – Present

- Developed React/TypeScript catastrophe dashboard with geospatial site maps, severity heatmaps, and dynamic filters.
- Architected data virtualization layer to normalize multi-sheet claims and serve high performance queries using RAG.
- Integrating Dynatrace across Flask APIs and frontend services to trace latency, detect anomalies, and optimize performance.

Data Analyst Intern | SAS, SQL, Python Jun. 2024 – Aug. 2024

- Automated SAS/SQL reporting for fire, auto, and legal claims; developed recurring bot-driven production reports.
- Built multi-class classification pipeline for disaster severity scoring; delivered risk-assessment dashboards.

JOY Research Inc. | Madison, WI May 2023 – Feb. 2024
Artificial Intelligence Development Associate | Python, Flutter/FlutterFlow, PaLM API

- Created Flutter/FlutterFlow UI for RAG-enabled CBT chatbot, tuned model parameters for therapeutic dialogue.
- Scripted UID generation in Python and bridged Firebase to FlutterFlow for controlled pilot deployments.

RESEARCH

Lai Laboratory for Systems in Machine Learning | Champaign, IL Sep. 2025 – Present
Python, PyTorch, Gymnasium, Stable-Retro, CUDA, OpenAI API

- Designing benchmarks for speculative inference in LLM/VLM gaming agents across 2048, Mario, and Sokoban, measuring latency-accuracy tradeoffs for GPT-4o, Claude-4, and Gemini-2.5 models.
- Developing cross domain inference framework to generalize gaming-based reasoning to real-time control and simulation systems.

Laboratory for Parallel Numerical Algorithms | Champaign, IL Sep. 2024 – Present
Python, C++, Linux, Git

- Co-led AIS framework for tensor-network contractions, validated on 2x2 rings and 3x3 lattices with < 0.2%–1% error.
- Performed hyperparameter sweeps (β -steps, MCMC iterations, burn-in, parallel chains) to identify defaults yielding < 0.1% relative error.
- Generalized to arbitrary network topologies and index colorings, enabling efficient simulations for large scale physical models and circuits

Fermi National Accelerator Laboratory | Batavia, IL May 2022 – Jun. 2024
C++, ROOT, Linux, Git

- Conducted searches for dark photon and doubly-charged Higgs signatures at CMS LHC, implemented C++/ROOT analysis pipelines.
- Refactored neural-net modules to CUDA-accelerated DNN, MLP, and BDT architectures, improving fake-jet rejection efficiency.

PUBLICATIONS, POSTERS, & PATENTS

Prospects for a Search for Doubly Charged Higgs Bosons at the HL-LHC In Progress
CMS Group paper in progress, concerning methods for discovery of exotic particles.

Approximating Tensor Contractions with Annealed Importance Sampling, Aug. 2025
Poster developed for QSim 2025, New York, NY.

Validation of Control Regions for a Data-Based Background Estimate for a Dark Photon Search at CMS Apr. 2024
Poster developed for the American Physical Society April Meeting, Sacramento, CA.

Systems and Methods for Catastrophe Asset and Resource Management Filed Oct. 2025
U.S. Patent Application covering asset management using RAG alongside a vector-graph hybrid dataspace. Filed as an invention through State Farm Insurance Co.

TECHNICAL SKILLS

Languages: C/C++, Java, Python, SQL/SAS, JavaScript, HTML/CSS, R, TypeScript
Frameworks: React, Node.js, Flask, TensorFlow
Developer Tools: Git, Docker, Amazon Web Services, Google Cloud Platform, VSCode, Visual Studio, PyCharm, IntelliJ
Libraries: pandas, NumPy, Matplotlib, Seaborn, scikit-learn, SciPy

HONORS

National Merit Scholar, awarded to top 1% of U.S. students for exceptional academic and standardized testing performance.
TechnipFMC Scholar, awarded by Grainger Engineering for excellence in engineering innovation, research, leadership and academic distinction.
American Physical Society Member & Presenter, delivered invited research on exotic particle physics at national APS conferences.
State Farm Hack Day Winner x2, led winning software engineering projects focused on automation and generative AI for claims analytics.
Z Fellows Finalist, nationally selected startup founder for a highly selective fellowship supporting high-impact ventures.