

K Sri Krishna Adithya

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Summary

Undergraduate Computer Applications student with hands-on experience in full-stack development, machine learning, reinforcement-learning systems, and real-time data engineering. Skilled in building production-grade web applications, quantitative trading tools, and network-forensics platforms using modern frameworks and cloud-ready architectures. Strong foundation in algorithms, backend development, and applied ML, with a growing interest in software engineering, data engineering, cybersecurity, and quantitative systems with research interests reinforcement learning, market microstructure, network forensics and high performance systems

Education

SRM Institute of Science and Technologies
Bachelor of Computer Applications
Cumulative GPA : 8.1

Vadapalani, Chennai
May 2026

Relevant Coursework: Data Structures & Algorithms, Computer Networks, Operating Systems, Java Programming, Database Systems, Numerical Methods..

Projects

Reinforcement Learning Market-Making Agent - [github repo](#)

Built a reinforcement-learning-based market-making agent inside a custom OpenAI Gym environment that simulates realistic Level-2 order book behavior.

- Implemented dynamic quoting logic, inventory controls, and transaction-cost modeling to closely mimic real microstructure.
- Trained PPO and DQN agents that achieved a **Sharpe Ratio of 3.2** and **35% higher PnL** than Avellaneda–Stoikov.
- The agent maintained stable inventory levels ($\pm 10\%$) even under high-volatility scenarios, showing strong generalization.

Real-Time Trading Dashboard - [github repo](#)

Created a real-time dashboard capable of streaming and visualizing live market data with low latency.

- Designed a WebSocket pipeline capable of handling **50,000+ ticks per second**, supported by optimized Python/C++ components.
- Added analytics like VWAP, rolling volatility, and custom alpha signals, with Redis caching for fast access.
- Built a responsive React frontend with D3/Recharts visualizations and role-based authentication; supported **1,000+ concurrent users** during load tests.

TOR Network Forensics & Deanonimization Dashboard - [github repo](#)

Developed a network-forensics platform that studies TOR traffic patterns to identify potential entry-exit node pairs.

- Collected and categorized TOR relays using the Onionoo API and maintained live metadata for analysis.
- Built a correlation engine comparing packet timing and size patterns, achieving **92% accuracy** in circuit identification in simulations.
- Designed an interactive topology visualization and a reporting module that generated correlation summaries with a **mean time of 2.5s**.

AgroScope – Agricultural Supply Chain & Matchmaking Platform - [github repo](#)

A platform built to connect farmers with agri-tech startups through data-driven matching.

- Developed a type-safe React/TypeScript frontend with clean UI components and dashboard views.
- Implemented a Node.js backend and a FastAPI microservice where a Random Forest model categorized crops and ranked matches.
- Used MongoDB and geo-scoring (Haversine) to provide real-time, location-aware recommendations.

Skills

Programming Languages: Python, C++, JavaScript, TypeScript

Machine Learning: Reinforcement Learning, Stable-Baselines3, scikit-learn, OpenAI Gym, stochastic modeling, LOB simulation

Frontend: React, TypeScript, Vite, Tailwind CSS, Radix UI, Recharts, SVG-based visualization

Backend: Node.js, Express.js, FastAPI, REST APIs, WebSockets

Databases & Storage: MongoDB, PostgreSQL, Redis, Drizzle ORM

Dev Tools: Git, GitHub, JWT Auth, Bcrypt, Docker

Internship Experience

Astra Dyne Global (Jul 2025 – Oct 2025)

Worked on improving backend APIs and database performance for production applications.

- Optimized MongoDB queries and data models, helping reduce API response times by **around 20%**.
- Built and refined REST endpoints and contributed to backend–frontend integration for new features.
- Gained experience with clean code practices, debugging, and handling real-world application constraints.

Additional

Student Council Member: Represented my department and contributed to event planning and student initiatives.

Event Organizer: Managed logistics and coordination for a high-school technical symposium.

Hackathons:

- 1st Place — TechnoVera'24 (SRM Vadapalani)
- 2nd Place — Invente'24 (SNUC/SSN)
- Special Mention — Hackathrone (VIT)
- Participant — TN Police Hackathon (TNPCC)
- 1st Place — Origin (SIMATS)