Shivaganesh Nagamandla

954-681-9535 | shiv.nagamandla@gmail.com | linkedin.com/in/shiv-nagamandla | github.com/4shivv | shivn.dev

Education

University of Central Florida Orlando, FL
Bachelor of Science - Computer Science (GPA: 3.3/4, Bright Futures Scholar) *Apr. 2026*

Experience

Lead Software Developer Apr. 2025 – Present
Knights Experimental Rocketry Club *Orlando, FL*

- Developed React dashboards with uPlot and WebSockets for live visualization of 12 rocket sensor streams at 60Hz.
- Built Node.js WebSocket server with QuestDB time-series integration, processing 100,000+ data points per static fire test from ADS1256 chips over 4,400-ft Ubiquiti link.
- Implemented GPIO relay control logic within Python TCP server, enabling remote actuation of 8 propellant valves on Raspberry Pi test stand.
- Reduced setup time by 80% by creating unified Bash script to automate deployment of 6+ services across local and remote subsystems via SSH.

Software Engineer Intern May. 2025 – Aug. 2025
Oasis Social *Orlando, FL*

- Developed Django recommendation API with PyTorch Geometric, achieving 94% accuracy in surfacing personalized travel content for 500 users across 1,500 posts.
- Built PostgreSQL data pipeline processing 8,000+ interactions with feature extraction and graph construction, generating high-quality Graph Neural Network training data.
- Integrated OpenAI GPT-4 API generating multi-day itineraries with automated budget optimization across 5 expense categories enabling data-driven booking decisions.

Software Engineer Intern May. 2024 – Aug. 2024
Hexaider Technologies *Maitland, FL*

- Developed Spring Boot APIs within a flight reservation microservice, achieving a 28% increase in transaction success rates during peak booking windows.
- Engineered a solution to convert Kafka flight event streams into structured updates for a React.js dashboard.
- Managed 6 GitLab CI configurations, minimizing build overhead for airline microservices by 25%.

Projects

PYRA (NexHacks 2026) | *React, Node.js, LiveKit, Ethers.js, OpenAI, Kairo AI* Jan. 2026

- Won 2nd place in DevTools track out of 182 projects at Carnegie Mellon University for building a runtime security voice agent that audits contracts for vulnerabilities and executes user-confirmed blockchain transactions.
- Built 4-gate security pipeline with ENS, Etherscan, and Kairo AI to detect re-entrancy and delegatecall vulnerabilities.
- Implemented Human-in-the-Loop state machine to prevent AI hallucinations from executing transactions.

AgentGuard (Sharkbyte 2025) | *React, TypeScript, Node.js, Express, PostgreSQL, Redis, Gemini* Nov. 2025

- AI-powered security testing platform that red-teams AI agent system prompts for 6 vulnerability types and returns structured security reports.
- Built dual-model prompt engineering pipeline with Gemini 2.5 Pro for attack simulations and auto-remediation.
- Implemented async vulnerability scanning with Redis job queue processing and worker for system prompt analysis.

KnightMobile (Knighthacks 2025) | *Python, FastAPI, YOLO, Google ADK, OpenCV, React, Arduino* Oct. 2025

- Built autonomous robot car that navigates to user-specified objects using LiDAR mapping, YOLO11n detection, Gemini decision-making, and D* Lite pathfinding.
- Created a sensor-fusion pipeline that builds LiDAR occupancy grids and OpenCV-based depth maps.
- Developed FastAPI backend with WebSocket streaming for LiDAR ingest and bidirectional Arduino motor control.
- Implemented Google ADK navigation agent with tool-calling for autonomous replanning.

Technical Skills

Programming Languages: Python, Bash, Java, JavaScript, TypeScript, C, C++, C#, SQL, HTML, CSS
Libraries/Frameworks: React.js, Next.js, Node.js, Prisma, Spring, AWS, PyTorch, NumPy, Pandas, .NET, Angular
Developer Tools: Git, Linux, Raspberry Pi, Docker, Postman, Jira, Visual Studio, CLion, Eclipse