

# Shivaganesh Nagamandla

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## EDUCATION

### University of Central Florida

Bachelor of Science - Computer Science (GPA: 3.3/4, Bright Futures Scholar)

Orlando, FL

Dec. 2026

## EXPERIENCE

### Lead Software Developer

*Knights Experimental Rocketry Club*

Apr. 2025 – Present

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

*Oasis Social*

May. 2025 – Aug. 2025

Orlando, FL

- Developed recommendation API with PyTorch and Django, achieving 94% prediction accuracy in serving personalized content to 500+ users.
- Built PostgreSQL data pipeline processing 8,000+ user interactions for Graph Neural Network model training.
- Implemented ChatGPT-powered itinerary endpoint generating personalized three-day budgeted travel plans.

### Software Engineer Intern

*Hexaider Technologies*

May. 2024 – Aug. 2024

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

### Credit Card Finder (ShellHacks 2025) | *Next.js, TypeScript, React, Express, Google Gemini, Tailwind*

Sep. 2025

- Engineered weighted decision matrix algorithm analyzing 5 criteria across 15+ credit cards for personalized recommendations.
- Implemented 11-question progressive quiz with React Hook Form validation and scoring to capture financial profiles.
- Built AI chatbot using Google Gemini with knowledge base of credit card data and user profile for explanations.

### Google Gemini MCP Tool | *TypeScript, Node.js, MCP SDK, Bash*

Jun. 2025

- Built an MCP server integrating Claude AI with Gemini CLI for seamless 2M+ token codebase analysis.
- Reduced Claude token usage by 60% by creating token-aware routing system to offload large requests to Gemini AI.
- Implemented sandboxed code execution, multi-model support, structured response validation and behavioral flags.

### LyricLingo | *React, Node.js, MongoDB, Express, Redis, Cheerio, JavaScript*

Jan. 2025 - Mar. 2025

- Developed a full-stack language learning app leveraging Spotify, Genius, and DeepL APIs with JWT authentication, enabling real-time lyric translations in 9+ languages at 95% accuracy.
- Engineered a custom language auto-detection and lyric deduplication algorithm, reducing external API costs by 40%.
- Built an NLP pipeline with Hugging Face's RoBERTa model to classify lyrics into 28 emotion categories.
- Achieved 93% load time reduction via Redis caching for flashcards and sentiment analysis.

## TECHNICAL SKILLS

**Programming Languages:** Python, Bash, Java, JavaScript, TypeScript, C, SQL, HTML, CSS

**Libraries/Frameworks:** React.js, Next.js, Node.js, Express.js, Spring Boot, Tailwind, PyTorch, NumPy, Pandas

**Developer Tools:** Git, Linux, Raspberry Pi, Docker, Postman, Jira, Visual Studio, CLion, Eclipse