

# Shivaganesh Nagamandla

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## EDUCATION

### University of Central Florida

*Bachelor of Science - Computer Science (Dean's List, Bright Futures Scholar)*

Orlando, FL

Dec. 2026

## EXPERIENCE

### Software Developer

Apr. 2025 – Present

*Knights Experimental Rocketry*

*Orlando, FL*

- Created a mission control script for Raspberry Pi using Bash and SSH, enabling ground engineers to initialize relay-controlled systems and telemetry containers over WiFi, reducing setup time by 80%
- Implemented live telemetry logging from DAQ using Python TCP sockets, capturing 20,000+ sensor data points per test for post-mission analysis
- Developed real-time load cell and pressure transducer graphs using React and TypeScript, enabling engineers to monitor 4+ telemetry streams from QuestDB
- Integrated control board input with the telemetry frontend and relay system using Python and React, enabling synchronized UI state updates for 8+ relays during test procedures

### 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

### DocuLens (GemiKnights 2025) | *React, Node.js, TypeScript, Firebase, Google Gemini API, Docker*

Jul. 2025

- AI-powered, helps immigrants identify errors in tax forms through document scanning and plain-English explanations
- Integrated Google Gemini API with OCR fallback processing, handling PDFs with real-time status tracking
- Implemented secure file validation, rate limiting, and error handling with comprehensive logging and monitoring for production deployment

### 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
- Created a token-aware routing system to offload large requests to Gemini models, cutting Claude token usage by 60%
- Implemented sandboxed code execution, multi-model support, structured response validation and behavioral flags

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

Feb. 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
- Utilized Redis caching for flashcards and sentiment analysis, reducing load times 3+ seconds to under 200ms

### Template Portfolio Website | *HTML5, CSS3, JavaScript*

Jan. 2025

- User-friendly portfolio template for UCF computer science students and software engineers, adopted by 20 students
- Built a responsive, minimalist portfolio website using vanilla JavaScript with custom interactive features including theme toggle, cursor follower, and optimized CSS for fast loading

## TECHNICAL SKILLS

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

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

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