

Sujan Katari

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EDUCATION

University of Central Florida

Bachelor of Science in Computer Science | Burnett Honors College

Expected Graduation: Dec 2026

GPA: 3.94

- **Related Coursework:** Data Structures & Algorithms, Statistical Methods II, Object-Oriented Programming, System Software

SKILLS

Languages & Frameworks: Python, TypeScript, Java, C, SQL, Bash, Node.js, Next.js, FastAPI, PyTorch

Tools & Technologies: LangChain, HuggingFace, PostgreSQL, MongoDB, AWS (S3, RDS, CloudFront), Docker, Git, Postman

EXPERIENCE

Software Engineering Intern - Generative AI

May 2025 – Present

CSX

Jacksonville, Florida

- Developed an AI-powered system using **LangChain**, **RAG**, and **GPT-4-turbo** to analyze **9,000+ internal repositories**, generating developer-facing documentation, metadata, and architecture diagrams.
- Implemented an automated pipeline to extract **API logic**, **ownership metadata**, and **service relationships**, documenting and registering **10+ key microservices** into CSX's internal **Developer Depot portal** for improved discoverability.
- Applied advanced **few-shot prompting techniques** and **semantic parsing** to generate clear, natural language summaries and visual diagrams, streamlining onboarding across **legacy and modern systems**.
- Deployed the platform to **100+ engineers**, centralizing institutional knowledge and reducing onboarding time; contributed in **Agile sprints** using **Jira** and **Confluence**.

Machine Learning Engineer Intern

Feb 2025 – May 2025

Lockheed Martin

Orlando, Florida

- Built a Python pipeline to auto-label EO video frames for YOLOv5 training, accelerating dataset generation by **80%**.
- Engineered an **SVM-based ATD system** using RGB data from **4,000+ frames** to automate target detection across conditions.
- Boosted polarimetric model accuracy by **10%** and AUC by **0.10** through resolution benchmarking, with performance insights driven by ROC curves and RGB scatter plot.

Software and Data Engineering Intern

Aug 2024 – Feb 2025

UCF IT

Orlando, Florida

- Engineered an automated **ELT pipeline** with **Informatica** to transfer **10,000+ LEAP tickets** from Oracle to **Azure SQL Server**, enabling real-time analytics and eliminating manual workflows.
- Architected a star-schema **data warehouse** and integrated **Power BI dashboards** into Teams/SharePoint, tracking ticket SLAs and developer performance for leadership visibility.

Software Engineering Intern

May 2024 – Aug 2024

QBrainX

Orlando, Florida

- Led development of a real-time grocery detection platform using a **FastAPI microservice** with async handling and **<200 ms inference**, reducing latency by **80%** through model-size optimization.
- Devised a Python preprocessing pipeline to batch-process **5,000+ images**, cutting input variance by **30%** with transformations like crop, denoise, and normalize.
- Automated YOLO prep and fine-tuned a **YOLOv5-nano** on a **50-class grocery dataset** for robust shelf item detection.

PROJECTS

Knightshub – myknightshub.com

Apr 2024 – Present

Full-Stack Subleasing Platform | Typescript, Node.js, Express, Next.js, AWS (App Runner, PostgreSQL (RDS), S3, CloudFront), Pinecone, LangGraph

- Created a secure full-stack subleasing platform with **JWT auth**, **email verification**, and UCF-only access, deploying **20+ protected routes** via **Dockerized services** on **AWS App Runner** with custom domains.
- Designing an **Agentic AI chatbot**, **Knightro**, using **LangChain**, **RAG** with **Pinecone vector database**, and a custom **Model Context Protocol (MCP)** to automate user workflows and answer UCF-specific queries.
- Implementing advanced reasoning via **LangGraph**, enabling **tool calling**, **dynamic persona injection**, and **multi-step planning** with real-time API orchestration and semantic input parsing.

MindStream – mindstream-tau.vercel.app | github.com/skatari172/MindStream

June 2025

GemiHacks 2025 | MCP, FastAPI, LangChain, React, Javascript, MongoDB, Vercel, Render

- Collaborated with 3 others to build a tool that converts **spoken content** into **structured, interactive mind maps**, designed to help users with **ADHD or hearing impairments** better follow and recall meetings or lectures.
- Developed a **Gemini 1.5 Agentic AI system** using **MCP**, **FastAPI**, **MongoDB**, and **LangChain** for **autonomous tool-calling** (extract, merge, memory) on **1,000+ word transcripts**; integrated voice input (Web API, MediaRecorder) and speech-to-text via **AssemblyAI**.

1st Place Databricks Challenge – github.com/skatari172/Derma

Oct 2024

KnightHacks 2024 (300+ participants) | React Native, TypeScript, PyTorch, MongoDB

- Built Dermai, a mobile app for skin cancer detection using a **91.2% accurate custom CNN** with on-device inference on **10,000+ images**.