

KUSHAGRA KATIYAR

Lake Mary, Florida

240-704-1066

k.katiyar2006@gmail.com

[linkedin.com/in/kushagrakatiyar](https://www.linkedin.com/in/kushagrakatiyar)

github.com/KushagraKatiyar06

Education

University of Florida

B.S. Computer Science, Minor in Statistics, AI Certificate

GPA: 3.9/4.0

Gainesville, Florida — May 2028

Work Experience

University of Florida

Undergraduate Research Assistant | Python, RAGs, LLMs, Pydantic, Altair, Pandas, UF Navigator

January 2026 – Present

Gainesville, Florida

- Implementing LLM-as-a-judge to grade decodable texts used across **5+ elementary schools**, improving child engagement.
- Developed **RAGs** to store **200+** stories in vector databases, resulting in prompt sizes reduced from **25,000 to 1000 tokens**.
- Enforced data integrity across Llama, GPT and Gemini model outputs using **Pydantic** validation further cutting prompt costs.

English2Success

Software Engineering Intern | Python, SQL, Flask, PostgreSQL, Docker, Google Cloud Platform, OpenAI

February 2025 – July 2025

Lake Mary, Florida

- Designed a full-stack dashboard using **Flask** and **Python**, resulting in growth from **200 to 450+ global members**.
- Migrated to **PostgreSQL** and integrated **GPT-4o** for automated tutor progress reporting, cutting **8 hours** of weekly overhead.
- Used Gmail API, and Google Service Accounts with **Google Cloud** to schedule **50+ weekly reminders** and deploy dashboard.

Kickstand Technologies

Software Engineering Intern | Typescript, HTML, CSS, Angular, Ionic

May 2023 – August 2023

Winter Springs, Florida

- Integrated Launch Library 2 in **TypeScript** to track rocket launches, enhancing mobile app user experience for **50,000 users**.
- Built **Angular** and **Ionic** UI components including countdown displays and agency filters, optimized for iOS and Android.

Involvement

Dream Team Engineering

Software Engineer | Java, Kotlin, OpenCV Mediapipe

January 2026 – Present

Gainesville, Florida

- Building a **Kotlin Android** app for Train-of-Four anesthesia testing, providing an alternative to **\$2000** of medical equipment.
- Engineered motion extraction and twitch detection pipeline using MediaPipe, optical flow stabilization, and peak analysis in **Java**.
- Achieved **90% accuracy** across **400+** Unity simulations and conducting IRB-approved field trials at UF Shands Hospital.

UF GatorAI

Software Team Lead | Python, SQL, React, Next.js, Fastapi, PostgreSQL, Docker AWS, Celery, Redis

September 2025 – January 2026

Gainesville, Florida

- Led end-to-end development of an Agentic AI video generation platform, achieving **5x cost reduction** at **\$0.20 per minute**.
- Full-stack architecture using **Next.js**, **FastAPI** and **PostgreSQL**, deploying via **Railway** and **Docker** with continuous delivery.
- Orchestrated pipeline using **GPT-4o**, **Flux Schnell**, **AWS Polly**, and **FFmpeg** via **REST APIs** with **Celery** and **Redis**.

Swamp Records

Software Engineer | Typescript, HTML, CSS, Node.js, React, Vite, Vercel

January 2026 – Present

Gainesville, Florida

- Developing artist platform with **React**, and **Vite** to grow fanbase of **50+** listeners and increase overall fan engagement.
- Implementing newsletter signups and spotify embeds with mobile designs, deploying on **Vercel** with continuous delivery.
- Collaborating with artist management to define product requirements and design direction, building hi-fidelity mockups on **Figma**.

Projects

Hackathon Winner — UseProtection | *Python, FastAPI, Next.js, Docker, WebSockets*

March 2026

- **Won HackUSF** in Cybersecurity track with an **Agentic AI** malware analysis platform that tracks and reports malware activity.
- Implemented agents for ingestion, static/dynamic analysis, Mitre Attack Mapping, remediation planning and report generation.
- Built **FastAPI** and **WebSocket** backend with virtual Windows simulation on Linux for malware step-through visualizations.

2x Hackathon Winner — Buddy, Lock In! | *Typescript, Blender, React, Vite, Express.js, MediaPipe, Socket.io*

March 2026

- **Won SASEHacks** in Gamification and Best Use of Blender tracks with a 3D multiplayer game using **Blender** and **Socket.io**.
- Implemented focus detection using **MediaPipe** head pose analysis and **Gemini Vision** for screen content moderation.
- Animated 3D models with synchronized audio on **React** using Blender models and assets, reactive to user input during sessions.

SteamSearch | *C++, Crow, React, Docker, Amazon Web Services*

January 2026

- Built a full-stack recommendation engine in **C++** processing **100,000+** game dataset, achieving **200ms** algorithm runtimes.
- Compressed **600MB** of game metadata into binary with contiguous indexing, resulting in a **60%** reduction in RAM usage.
- Architected a **React** frontend with **Crow** backend, and **REST APIs** deployed via **Docker** on **Railway** with CI/CD integration.
- Engineered cloud-based (**AWS**) ETL data pipeline (EC2, Lambda, S3) ingesting **100,000** games from ISteamSPY API.

Technical Skills

Languages: Python, C++, SQL, Java, JavaScript, TypeScript, HTML/CSS, R

Frameworks/Technologies: Next.js, React, Node.js, Flask, FastAPI, Angular, Ionic, REST API, Git, CI/CD, Scrum, Agile, OOP

Tools/Platforms: AWS, GCP, Docker, PostgreSQL, Linux, Bash, Shell Scripting, GitHub Copilot, Claude Code, Figma, Jira

Certifications: Fundamentals of Deep Learning (NVIDIA), Adobe Indesign, Adobe Photoshop

Relevant Coursework: Data Structures and Algorithms, Software Engineering, Operating Systems, Database Management, Computer Architecture, Programming with R, Linear Algebra, Linear Regression, Business Analytics and AI, UX Design