

# KUSHAGRA KATIYAR

Lake Mary, Florida

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## Education

### University of Florida

GPA: 3.9/4.0

Bachelor of Science in Computer Science and Minor in Statistics, AI Certificate

Gainesville, Florida — May 2027

## Technical Skills

**Languages:** Python, C++, JavaScript, TypeScript, HTML/CSS, Kotlin, R

**Frameworks/Technologies:** Nextjs, React, Node.js, Flask, Crow, Mediapipe, TensorFlow, Expo, JSON, Agile, Scrum, RestAPI

**Tools/Platforms:** AWS, GCP, Docker, PostgreSQL, GitHub Copilot, Figma

**Certifications:** Fundamentals of Deep Learning (NVIDIA)

**Relevant Coursework:** Data Structures and Algorithms, Computer Architecture, Software Engineering, Operating Systems, Linear Algebra, Regression Analysis, Programming with R

## Experience

### Virtual Learning Lab - University of Florida

January 2026 – Present

Software Engineer

Gainesville, Florida

- Optimizing LLM evaluation pipeline to score decodable text quality across K-12 literacy dataset of **400+**.
- Automated text telemetry using GPT-2 perplexity and syntactic dependency to ensure target reading levels.
- Applied **Pydantic** validation, ensuring data integrity, reducing manual research overhead through structured feedback loops.

### English2Success ([www.englishtosuccess.com](http://www.englishtosuccess.com))

February 2025 – July 2025

Software Developer

Remote

- Developed a full-stack automation using **Flask** and **Python** for **450+** global users, replacing manual processes.
- Reduced manual administrative overhead by **8+ hours** weekly through automated reporting and AI-powered summarization.
- Integrated **OpenAI GPT-4o** API for report summarization and implemented Responsible AI safety protocols for moderation.
- Developed an automated email pipeline using **Gmail API** with **OAuth2**, sending **50+** weekly reminders and progress reports.

## Leadership

### Dream Team Engineering

January 2026 – Present

Software Engineer

Gainesville, Florida

- Building computer vision pipeline to automate Train-of-Four anesthesia monitoring diagnostics with **Mediapipe** on **Kotlin**.
- Engineering motion extraction detecting micro muscle twitches achieving **90%** test accuracy against of **400+** video simulations.

### Swamp Records ([www.swamprecords.org](http://www.swamprecords.org))

January 2026 – Present

Software Engineer

Gainesville, Florida

- Developing fullstack artist (Alex Willow) platform using **Next.js** and **React** supporting **50+** monthly listeners in Gainesville.
- Implemented new platform features and UI components using **React** to improve listener engagement and navigation experience.

### UF GatorAI

September 2025 – Present

Software Development Team Lead

Gainesville, Florida

- Developed KeyFrame, a full-stack autonomous AI slide-show generation platform with **Redis** queue and **PostgreSQL**.
- Designed a pipeline orchestrating **OpenAI GPT-4o**, **Flux-Schnell**, **AWS Polly**, and **FFmpeg** with parallel processing.
- Implemented **Docker** containerization with **Cloudflare R2** streaming and **Next.js** frontend for production deployment.
- Achieved **5x** cost reduction from industry standard (1 dollars per minute) using slide-show style videos at **20** cents per minute.

### UF Computing Student Union ([ufcsu.org](http://ufcsu.org))

August 2025 – Present

UI/UX Team Lead

Gainesville, Florida

- Managed UI/UX strategy for a campus-wide portal, streamlining event tracking for **200 CS students** and **25 organizations**.
- Spearheaded a cross-functional team of 5 designers using **Scrum** methodologies, ensuring seamless handoffs to developers.
- Developed high-fidelity prototypes in **Figma** utilizing the **ShadCN** library, resulting in **100 new active users**.

### Gator User Design

July 2025 – Present

UX Designer

Gainesville, Florida

- Executed **user research** for the UF CSFG Lab website, identifying friction points through **qualitative analysis**.
- Architected a design system and high-fidelity interactive prototypes in **Figma**, ensuring visual consistency.
- Communicated design strategy through user journey maps, and detailed affinity boards.

## Projects

### SteamSearch: Game Recommendation Engine | 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.
- Implemented vector-based algorithms such as MinHashing and Cosine Similarity for efficient similarity searches.
- Architected a **React** frontend with **Crow** backend, and **RESTAPIs** deployed via **Docker** on **Railway** with CI/CD integration.
- Engineered **AWS**-powered data pipeline (EC2, Lambda, S3) ingesting **100,000** games from ISteamSPY API in under **6 hours**.

### Kitchennaire: Cooking Assistant (Hackathon) | Python, React Native, Tensorflow, Expo, OpenAI API

October 2025

- Built a full-stack **React Native** cooking app that generates instructions from YouTube transcriptions using **OpenAI API**.
- Implemented **TensorFlow** CNN for real-time hand gesture detection enabling hands-free video control through 5 gestures.
- Integrated **OpenAI Vision API** to automatically detect ingredients from user images and compare against recipe requirements.
- Designed **Flask** backend for ML inference and **React Native/Expo** frontend with **WebView YouTube** integration.