

Aviral Gupta

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Education

Bachelor of Science in Computer Science and Business Analytics

Spring 2027

University of South Florida

GPA: 3.92

Judy Genshaft Honors College (Green and Gold Presidential Scholar)

Relevant Coursework: Operating Systems, Distributed Systems, Embedded Systems, Algorithms, Machine Learning, Artificial Intelligence, Probability & Statistics, Data Structures, Software Engineering

Technical Skills

- **Languages:** C, C++, Python, Java, JS/TypeScript, Bash
- **Systems & OS:** Linux, OS core concepts, Embedded dev
- **Networking:** Protocols, sockets, APIs
- **QA/Testing:** Unit, integration, regression testing; debugging (gdb, Valgrind)
- **Backend:** REST APIs, Flask, Node.js
- **Frontend:** React, HTML5/CSS
- **Databases:** SQL, NoSQL
- **Cloud:** AWS; Azure (familiar); GCP (familiar)
- **Containers/Orchestration:** Docker, Kubernetes
- **Build & CI:** GitHub Actions, Bazel, CMake, Make

Experience

AI Solutions Intern, Bake More Pies (Tampa, FL)

May 2025–Present

- Built automated QA pipelines (GitHub Actions) across C++/Python services, cutting production defects by **30%** and reducing release cycles from 2 weeks to **5 days**.
- Designed and deployed containerized microservices (**Docker + Kubernetes**), sustaining **10K+ daily requests**, sub-**200ms** response times, and **99.9%** uptime.
- Instrumented AWS monitoring to track feature adoption, leading to 3 UX redesigns that boosted daily active users by **18%** within 2 months.
- Delivered 5+ production features end-to-end, coordinating with engineering and product teams for scalable, on-time launches.

Faculty Honors Student Intern, USF Research (Tampa, FL)

Feb 2025–Present

- Re-architected backend for a research data platform, cutting query latency by **40%** and increasing compute usage by **25%**.
- Automated ETL pipelines with anomaly detection in Python/Bash, reducing validation time from 5 hrs to **2 hrs (60% faster)**.
- Deployed containerized environments, reducing onboarding for new researchers from 2 weeks to **7 days**.

Undergraduate Research Assistant, Dr. John Templeton Lab (Tampa, FL)

Jan 2025–July 2025

- Engineered real-time NLP pipelines on AWS to process EMR datasets, reducing average query time from **3.5s** to **0.8s**.
- Automated parsing of 500+ pathology reports with AWS Textract, cutting preprocessing effort by **75%**.
- Improved ML model accuracy by **12%** via feature engineering and hyperparameter tuning.

Projects

JobPal – AI Resume Bullet Optimizer (github.com/Aviralgupt/JobPal-SaaS-v1)

May 2025

- Built resume optimization app (React + Flask) using open-weight LLMs via Ollama (**Llama 3.x, Mistral**), generating role-specific rewrites locally with no cloud dependency.
- Designed offline inference pipeline, cutting operational costs to **\$0/month** while ensuring user privacy.
- Implemented semantic similarity scoring with embeddings, improving keyword alignment with job postings by **30%** across pilot users.

Nusify – AI Lyrics-to-Song Generator (github.com/Aviralgupt/Nusify)

July 2025

- Developed a full-stack app (**React.js, Flask, Tailwind**) integrating AI models (Coqui TTS, Magenta, YourTTS), generating **200+ songs** from lyrics.
- Added mood detection with Hugging Face transformers, aligning generated music to lyrical tone and increasing satisfaction scores by **25%**.
- Automated deployment with GitHub workflows, enabling one-click deploys to Render/Heroku and cutting setup time from hours to minutes.
- Integrated Librosa and PyDub for mixing/processing, improving audio clarity by **20%** in listening tests.

Leadership

President, Students of Indian Association, USF

May 2025–Present

Vice Finance Chair, E-Council USF

Apr 2025–Present

Director of Finance, SHPE USF

Sep 2024–Apr 2025