Aviral Gupta

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Education

Bachelor of Science in Computer Science and Business Analytics Spring 2028
University of South Florida GPA: 3.91
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**, JavaScript/TypeScript,debugging (gdb, Valgrind) Bash
- Systems & OS: **Linux**, OS core concepts, Embedded development
- Networking: Networking concepts (protocols, sockets, APIs)
- QA/Testing: **Unit, integration, regression testing**;
- 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) with unit, integration, and regression tests across C++/Python services, reducing production defects by **30%** and accelerating releases.
- Designed and deployed high-performance containerized microservices (**Docker + Kubernetes**) delivering sub-**200ms** API responses with **99.9%** uptime in production.
- Instrumented monitoring/analytics in AWS to track feature adoption, driving 3 UI/UX iterations that boosted daily active usage by **18%**.
- Led full SDLC for 5+ production features from requirements to deployment, collaborating with cross-functional teams and following established engineering processes.

Faculty Honors Student Intern, USF Research (Tampa, FL) ***Feb 2025–Present***

- Re-architected backend for a large-scale research data platform, cutting data retrieval latency by **40%** and improving compute utilization by **25%**.
- Automated ETL pipelines in Python/Bash with embedded statistical anomaly detection, reducing data validation time by **60%**.
- Deployed reproducible, containerized research environments to shorten new-researcher onboarding by **50%**.

Undergraduate Research Assistant, Dr. John Templeton Lab (Tampa, FL) ***Jan 2025–Present***

- Engineered real-time NLP pipelines on AWS to process EMR datasets at scale, reducing average query time from **3.5s** to **0.8s**.
- Integrated AWS Textract to automate parsing of 500+ pathology reports, decreasing manual preprocessing effort by **75%**.
- Debugged and optimized ML models via feature engineering and hyperparameter tuning, improving accuracy by **12%**.

Projects

JobPal – AI Resume Bullet Optimizer ***May 2025***

- Built an AI-powered resume optimization app (React + Flask) using local **open-weight LLMs via Ollama** (e.g., **Llama 3.x**, **Mistral**) for role-specific bullet rewrites—no cloud dependency.
- Engineered a fully offline inference pipeline, reducing operational costs to **$0/month** and ensuring complete user data privacy.
- Implemented semantic similarity scoring with vector embeddings, improving keyword alignment with job postings by **30%** in pilot testing.

Light-Following Sea Turtle Robot ***Sep 2024–Dec 2024***

- Designed and programmed an **Arduino-based** autonomous robot inspired by hatchling sea turtle navigation, using LDR sensors and adaptive control logic to track light sources.
- Developed PID-based movement algorithms enabling smooth navigation in dynamic and multi-light environments.
- Conducted 20+ iterative lab tests under varying lighting conditions, achieving **¿95%** navigation success rate.

Leadership

President, Students of Indian Association, USF ***May 2025–Present***

- Led a 15-member executive board; grew membership by **30%** and secured **$5K+** in sponsorships.

Vice Finance Chair, E-Council USF ***Apr 2025–Present***

- Managed **$20K+** budget across 20+ engineering orgs, optimizing spend by **12%**.

Director of Finance, SHPE USF ***Sep 2024–Apr 2025***

- Increased sponsorship revenue by **10%** through vendor negotiations and cost optimization.

Head of Outreach, TEDxUSF ***Aug 2024–Present***

- Boosted event attendance by **20%** and online engagement by **15%** via analytics-driven marketing.