

Aviral Gupta

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Education

Bachelor of Science in Computer Science and Business Analytics

Spring 2027

University of South Florida

GPA: 3.91

Judy Genshaft Honors College (Green and Gold Presidential Scholar)

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

Technical Skills

- Languages: C, C++, Python, Java, JavaScript/TypeScript, Bash scripting
- Systems: Linux, Networking concepts, OS core concepts, Embedded Development
- QA/Testing: Unit testing, integration testing, debugging (gdb, Valgrind)
- Backend: Flask, Node.js, REST APIs
- Frontend: React, HTML5/CSS
- Databases: SQL, NoSQL
- Cloud: AWS, Azure (familiar), GCP (familiar)
- Containers: Docker, Kubernetes
- Tools: GitHub Actions, Bazel, CMake, Make

Experience

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

May 2025–Present

- Designed and deployed high-performance containerized microservices (Docker + Kubernetes) in C++/Python, delivering sub-200ms API response times with 99.9% uptime in production.
- Built automated QA pipelines with unit, integration, and regression tests, reducing production defects by 30% and streamlining deployment cycles.
- Integrated monitoring and analytics pipelines in AWS to track feature adoption, leading to 3 major UI/UX iterations that boosted daily active usage by 18%.
- Led full SDLC for 5+ production features from requirements gathering to deployment, collaborating with cross-functional teams to meet tight delivery timelines.

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

Feb 2025–Present

- Re-architected backend infrastructure for a large-scale research data platform, cutting data retrieval latency by 40% and improving compute utilization by 25%.
- Automated ETL pipelines using Python/Bash with embedded statistical anomaly detection, reducing data validation time by 60%.
- Deployed reproducible containerized research environments, decreasing new researcher onboarding time 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 through feature engineering and hyperparameter tuning, improving accuracy by 12%.

Projects

JobPal – AI Resume Bullet Optimizer

May 2025

- Developed an AI-powered resume optimization platform using React (frontend) and Flask (backend) with local Ollama + Mistral LLM integration, enabling role-specific bullet rewrites without reliance on cloud APIs.
- Engineered a fully offline inference pipeline, reducing operational costs to **\$0/month** while ensuring complete user data privacy.
- Implemented semantic similarity scoring with vector embeddings, improving keyword alignment with job postings by **30%** and increasing recruiter match scores 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, refining detection accuracy and response speed to achieve **95% navigation success rate**.

Leadership

President, Students of Indian Association, USF

May 2025–Present

- Led 15-member executive board, growing membership by 30% and securing over \$5K in sponsorships through community engagement.

Vice Finance Chair, E-Council USF

Apr 2025–Present

- Managed \$20K+ budget for 20+ engineering organizations, optimizing spending by 12% while expanding funded programs.

Director of Finance, SHPE USF

Sep 2024–Apr 2025

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

Head of Outreach, TEDxUSF

Aug 2024–Present

- Boosted event attendance by 20% and online engagement by 15% through analytics-driven marketing campaigns.