Arnav Jain

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Education

University of Texas at Dallas Dallas, TX
Bachelor of Science in Computer Science, Minor in Entrepreneurship *May 2027*

Skills

Languages: Python, Java, JavaScript/TypeScript, SQL, C, C++, HTML/CSS, Bash, Rust, SwiftUI
Frameworks & Libraries: React, Node.js, Spring Boot, Django, Bootstrap, Pandas, TensorFlow, Tailwind, PyTorch
Tools & Platforms: Git, GitHub, Docker, JIRA, OpenAPI, CI/CD, Figma, Agile, OWASP ZAP, Selenium, Airflow
Cloud & DB: AWS (Lambda, ECS, EC2, S3, DynamoDB, SQS, CloudWatch, Terraform), Firebase, Supabase
AI: OpenAI, LangChain, Streamlit, RAG, Transformers (MTSIT, GRU, LSTM), NumPy, Hugging Face, DeepSpeed

Experience

The University of Texas at Dallas Oct. 2024 – Present
Web Specialist @ UT Dallas Department of Strategic Marketing & Communications *Dallas, TX*

- Conducted A/B tests on site hierarchy, microcopy, and CTA placement, reducing bounce rate from 40% to 28%
- Automated data collection for faculty directories and event listings by deploying Python web scrapers with Selenium, cutting manual effort by 90%
- Integrated dynamic alt-text tagging for 100+ images across UTD Engineering sites, improving WCAG 2.1 accessibility compliance for screen reader users

UT Dallas Association for Computer Machinery Sep. 2024 – Dec. 2024
Undergraduate Researcher — Pneumonia Segmentation in Chest X-Rays *Dallas, TX*

- Fine-tuned Meta's (SAM) on labeled outlier regions, boosting mean IoU by 15% on edge cases
- Applied CLAHE and RAPMED to 5K+ chest X-rays, improving pneumonia segmentation precision by 22%
- Preprocessed and normalized 5K+ DICOM images with NumPy and OpenCV, reducing training latency by 35%

Texas A&M Department of Computer Science Jan. 2024 – May 2024
Undergraduate Researcher — Dr. Anthony Medellin, Hyperspectral Algorithms for 3D Mapping *College Station, TX*

- Trained unsupervised autoencoders and DinoV2 models for 3D object tracking on 10K hyperspectral image stacks
- Increased object boundary detection accuracy by 20% using TPR and TNR evaluation on segmented outputs
- Optimized ViT pipeline to handle 200 spectral bands, improving multi-layer object recognition speed by 30%

Projects

Threat Atlas | *Airflow, Docker, Supabase, OWASP ZAP, PostgreSQL, D3.js* Aug. 2025

- Unified security data into a single dashboard, cutting context-switching time by 45%.
- Automated OWASP ZAP scans with Airflow, reducing manual effort by 70% across 100+ assets.
- Built AI risk scoring that lowered false positives by 35% and improved executive reporting.

OneFace Dashboard | *AWS (Lambda, DynamoDB, CloudWatch, S3, SQS, Rekognition), Node.js* Jun. 2025

- Built serverless facial recognition on AWS, processing 100+ scans at 99% accuracy for real-time analysis
- Integrated React UI with AWS Lambda and S3 to enable seamless photo uploads and identity matching, reducing image processing latency to under 2 seconds during live testing
- Designed a fault-tolerant recognition workflow processing over 1,000 facial scans by integrating SQS with event-driven Lambdas and DynamoDB Streams, guaranting delivery and consistent state across all user events

Voyager Magazine | *React, Tailwind CSS, WordPress PostgreSQL, CI/CD* Feb. 2025

- Converted legacy HTML to modular React components with scoped CSS, reducing DOM reflow by 28%
- Partnered with design teams to build responsive UI across breakpoints, achieving 100% Lighthouse accessibility
- Developed interactive frontend components for features like Dean's Message, increasing engagement by 40%

QuillQuest CNN | *Python, NumPy, Pandas, SciPy, scikit-learn, Matplotlib, Jupyter Notebook* Jul. 2024

- Built a feedforward neural network from scratch in Python using NumPy to classify handwritten digits across 10 output classes, achieving 95% test accuracy
- Implemented one-hot encoding for labels and vectorized all operations across 784×m input matrices, improving training time by 3x over baseline loops
- Designed and visualized the gradient descent learning loop, updating weights and biases via partial derivatives of cost wrt parameters using matrix calculus