

# Victor Sim

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## EDUCATION

### The University of Texas at Dallas

May 2027

*Bachelor of Science in Computer Science*

- Honors: NSF STEM Scholarship (Full Ride), Dean's List, President's List (Collin College)

## EXPERIENCE

### Research Intern

Nov 2024 – Aug 2025

*OpenAI Research (Algoverse AI)*

- Co-authored DCLIP paper (arXiv:2505.21549); boosted text-to-image retrieval precision by 29% on MSCOCO, maintaining 94% zero-shot accuracy.
- Designed teacher-student framework that increased model performance 15-35% across three size tiers, validated at CLVision conference.
- Reduced training data requirement to 67.5K samples (around 5% of web-scale) while matching benchmark scores, cutting compute cost by around 80%.

### Software Engineer Intern

Nov 2023 – Jun 2024

*NASA Johnson Space Center*

- Built drone detection system that cut latency from 10s to 6s (30% faster), earning Top-3 placement in NASA Open-Source Challenge.
- Trained YOLOv8 on SAR dataset, achieving 90% mAP & reducing false positives by 12%.
- Developed Flask API + React UI, automating 90% of data-ingest pipeline, achieving 99.5% Nvidia server uptime.

### Data Scientist Intern

Apr 2024 – Jun 2024

*Frontier Communications*

- Created predictive dispatch model that cut unnecessary technician trips by 15%, saving \$120K annually.
- Analyzed 50K+ call & telemetry records to flag non-productive dispatches; visualized findings in PowerBI.
- Improved model metrics to 90% (precision, recall, F1), contributing to customer satisfaction (74% to 76%).

## PROJECTS

### AI-Powered Developer Burnout Prevention (HackRice) | React, TypeScript, Convex

Sept 2025 – Oct 2025

- Built personal wellness monitor using TwelveLabs Pegasus API & Auth0 for real-time mood detection; won Best Dev Tool & 2nd Place CV (Warp, TwelveLabs).
- Integrated 3 APIs (GitHub, Linear, WakaTime) to track productivity metrics across development workflows.

### ML Plane Engine Emissions Forecast (Raytheon) | Vite, Django, Node.js, PostgreSQL

Jan 2025 – May 2025

- Developed emissions forecasting dashboard processing ICAO data; trained Bagged Trees model achieving 90% accuracy.
- Deployed via 5+ RESTful APIs & Docker containers with CI/CD pipeline for manufacturing risk mitigation.

### AI Financial Risk Assessor (Goldman Sachs) | FastAPI, React, LightGBM, Node.js

Nov 2024 – Dec 2024

- Built ML platform for underbanked populations; implemented LightGBM model achieving 95% accuracy in loan default prediction.

## LEADERSHIP

### NSF STEM, ACM, & NASA STEM | Transfer Officer, Team Leader, ROS2 Developer

Aug 2023 – Present

- Led 4-person team to Top-3 NASA Challenge finish; mentored 3 junior members in ML deployment; 4x Hackathons (3x Winner).

## TECHNICAL SKILLS

**Languages:** Python, C++, Java, JavaScript/TypeScript, Go, Swift, Kotlin, SQL

**ML & Data:** PyTorch, TensorFlow, Scikit-Learn, LightGBM, OpenCV, YOLO, Pandas, NumPy, feature engineering

**Cloud & DevOps:** AWS (S3, EC2), Azure, GCP, Docker, Kubernetes, CI/CD (GitHub Actions), MLOps pipelines

**Web & APIs:** React, Next.js, Node.js, Flask, FastAPI, Django, RESTful microservices

**Tools:** Git, Jira, Postman, CUDA, ROS2, model monitoring, A/B testing, ETL pipelines

**Certifications:** CompTIA A+, Network+, Security+, Google IT Support