

# Salvador Robles

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## Education

### The University of Texas at Austin

Master of Science in Computer Science (GPA: 3.81 / 4.0)

Expected: May 2026

Austin, Texas

- **Courses:** NLP, Visual Recognition, Generative Models, Distributed Systems, Parallel Algorithms, Convex Optimization

### The University of Texas at El Paso

Bachelor of Science in Computer Science and Mathematics (GPA: 3.94 / 4.0)

Graduated: May 2024

El Paso, Texas

- **Awards:** Department Rank 1 (Mathematics) **Academic Award Scholarship (top 0.1%)**
- **Courses:** Machine Learning, Deep Learning, Computer Vision, Linear & Abstract Algebra, Statistical Inference

## Experience

**The University of Texas at Austin** | Python, PyTorch, NumPy, Pandas, Multi-Agent systems

Austin, Texas

Teaching Assistant (Courses: AI Agents, NLP, and Data Analytics)

Aug 2024 - Present

- Designed and graded **30+** Python assignments for **60+ students**, covering ML, transformers, LLMs, and agents.
- Tutored a total of **100+** students in bi-weekly office hours, earning **100% positive feedback** for ML concept clarity.

**Uber** | Python, Apache Spark, Scala, Pandas, Data Security

Seattle, Washington

Software Engineering Intern

May 2022 - Aug 2022

- Integrated ML models to classify and flag sensitive user data (e.g., identity + location) in Uber's DataK9 platform.
- Boosted accuracy from **87% to 93%** on exabyte-scale data, enabling categorization of over **400k+** datasets at Uber.
- Reduced latency by **12%** by developing a Scala-based **Apache Spark** pipeline to collect training data for inference.
- Designed and evaluated **10+** feature engineering approaches, identifying key predictors for **6%** accuracy gain.

**Google** | C++, Python, Vertex AI, Recommendation Systems

Waterloo, Canada (Remote)

Software Engineering Intern

May 2021 - Aug 2021

- Contributed to Cloud AI's large-scale ML workload migration from Borg to **Vertex AI**, supporting **1k+ pipelines**.
- Engineered a multi-threaded **C++** handler, tuning concurrency across **5-30 threads** and improving throughput by **12%**.
- Developed and tested support for scalable vector matching relying on a container's local volume in **Python**.

**Google** | JavaScript, Java, Google Maps API, HTML/CSS, UI/UX, REST APIs

Mountain View, CA (Remote)

Student Training in Engineering Program Intern (STEP Intern)

May 2020 - Aug 2020

- Built a full-stack route planner using Google Directions API and a grid-based datastore modeling **500 crime zones**.
- Built a JavaScript obstacle-avoidance algorithm that evaluated **20+ routes** and returned the **top 3 safest routes**.
- Tested and validated the system across **50+ simulated trips**, and filtering high-risk segments in **90%** of cases.

## Projects

**Disaster Response Message Classification** 🤖 📄 | Fine-Tuning BERT, RAG, FastAPI

Dec 2025

- Deployed a **FastAPI web application** for multi-label disaster message classification using a fine-tuned BERT model.
- Integrated a **FAISS-based RAG pipeline**, indexing **26k+** messages and achieving **Recall@5 = 0.85** for semantic retrieval.

**Multimodal Expert Sports Coaching System** 🤖 📄 | Vision-Language Models, PyTorch, Transformers

Dec 2025

- Developing an AI Sports Coach to give coach-like feedback from video clips by learning from **1M+** YouTube videos.
- Tested **5+** evaluation systems that would align with human values by collecting **30k+** coach-data from Ego-Exo4D.

**Benchmarking Spatial Reasoning in Vision-Language Models** 🤖 📄 | PyTorch, Transformers, OpenCV

May 2025

- Benchmarked spatial reasoning in Vision-Language Models, focusing on left-right consistency, and size perception.
- Evaluated SOTA models (**LLaVA-7B/13B**, **GPT-4o**, **Claude-3.5**) on **5k+** COCO images and **720** synthetic scenes.

## Publications and Activities

- Predicting Fairness of ML Software Configurations 🤖 📄 **PROMISE'24 (Presented in Top Conference)**
- When is Deep Learning Better and When is Shallow Learning Better 🤖 📄 **IJPEDS'22 (Best Student Paper)**
- **Officer, The Coding Interview Club:** Coached **50+** students to land internships via mock interviews and weekly sessions.
- **Clubs:** UT Competitive Programming, Hispanics in Computer Science (HACS), Texas ACM, ML and Data Science Club.
- **5-time National Medalist** (Silver/Bronze, **Top 3, 0.001%**) in the Mexican Mathematics Olympiad.

## Languages and Technologies

**Languages:** Python, C/C++, Java, Scala, JavaScript, R, HTML/CSS, Haskell

**Systems & Backend:** AWS, GCP, Docker, Kubernetes, Linux, Git, Bash, CI/CD, Flask, FastAPI, Node.js

**Data & ML/AI:** SQL, Apache Spark, MongoDB, PyTorch, Pandas, NumPy, Fine-Tuning LLMs, LLM Agents