

SERGIO ZAVALA

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SUMMARY

Software engineer with hands-on experience operating and troubleshooting robotic systems in real field environments, plus a background in Python APIs, backend services, and applied machine learning, and research. Pursuing an M.S. in Computer Science at Georgia Tech specializing in Computational Perception and Robotics.

EDUCATION

Georgia Institute of Technology

M.S. in Computer Science — Computational Perception and Robotics

California State University, Monterey Bay

B.S. in Computer Science, Data Science Concentration — Magna Cum Laude, GPA 3.82

Expected Spring 2029

Atlanta, GA

May 2026

Seaside, CA

TECHNICAL SKILLS

Languages & Tools: Python, C++, Java, SQL, Bash, Linux/Unix, Git, Docker, CI/CD

Robotics & Hardware: ZED stereo cameras, NVIDIA Jetson Orin, Dynamixel servos, GELLO teleoperation, end-effector repair, serial/USB connectivity debugging

ML & Backend: PyTorch, TensorFlow/Keras, scikit-learn, Pandas, NumPy, FastAPI, Flask, SQLAlchemy, PostgreSQL, REST APIs

EXPERIENCE

Agrobotics

Data Operations Supervisor

Salinas, CA

07/2026 – Present

- Promoted from Data Collection Engineer after three months; lead 12 engineers and own field operations and data-quality standards across five teleoperated systems delivering training data for autonomous manipulation models.
- Oversaw collection of 100,000+ successful demonstration episodes in the first month, enforcing episode-quality criteria that determine which runs reach the training set.
- Supported a 3x rise in collection efficiency and a 4x rise in throughput (30 to 115 episodes an hour) over a single month by diagnosing Dynamixel servo faults between GELLO leader and follower arms, power failures, and intermittent connectivity in-field.
- Minimize robot downtime by replacing hands, fingers, wiring, and displays and reconfiguring ZED stereo camera serials in the robot environment; debug alongside engineers on NVIDIA Jetson Orin compute units and pull fixes via Git.

Data Collection Engineer

04/2026 – 07/2026

- Teleoperated robotic arms via GELLO leader-follower rigs to record demonstration episodes, generating the training data behind the company's autonomous manipulation models.
- Resolved recording failures and hardware faults in-field, building working familiarity with the production robotics codebase and ROS-based tooling.

Computing Talent Initiative (CTI)

Software Engineer

Remote

06/2025 – Present

- Built a Python/SQLAlchemy API endpoint that queries attendance records, transforms results into Pandas matrices, and syncs student data to Google Sheets, automating operational reporting.
- Restored production reporting by tracing an unpacking failure to a missing SQL field; improved accuracy with student-ID matching and configurable date-range logic.

University of California, Santa Cruz — NIH NHGRI

Undergraduate Researcher

Santa Cruz, CA

06/2025 – 05/2026

- Built a Python command-line application mapping gene annotations across 462 human pangenome assemblies, automating graph-based projection and improving reproducibility.
- Engineered pipelines to parse and compare millions of genomic annotation records; benchmarked projection accuracy and analyzed failure modes. Presented at NHGRI, SACNAS NDiSTEM, and CSUMB.

EBSCO Information Services

Machine Learning Engineer Intern

Remote

10/2024 – 11/2024

- Co-developed ResearchBuddy, an open-source Flask app using PyTorch and a fine-tuned Longformer model to summarize arXiv papers; built the inference endpoint and preprocessing workflows, achieving a 2.8x ROUGE-1 improvement over the pretrained baseline.

PROJECTS

NLP Course Evaluation Pipeline | Python, PyTorch, Transformers

02/2026 – 05/2026

- Built a pipeline converting open-ended course evaluation comments into sentiment labels, themes, and summaries; benchmarked RoBERTa, DistilRoBERTa, Gemma, and Llama across CSUMB and UCLA datasets.

HONORS & SERVICE

NSF ExLent CTCtoAI Student Fellow | NIH/NHGRI GREAT Scholar | Outstanding Research Poster, CSUMB Summer Research Symposium | ACM SACMAT 2026 Artifact Evaluation Committee