

# Pranav Tadeipalli

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## EDUCATION

**Georgia Institute of Technology** — Atlanta, GA

Expected Graduation May 2026

[B.S. / M.S. in Computer Science](#) | GPA: 4.0 | Relevant Coursework: Design / Analysis of Algorithms, Machine Learning, Deep Learning, Intro to AI, Conversational AI, Computer Systems & Networks, Computer Vision, Perception / Robotics, Linear Algebra, Multivar. Calculus

## SKILLS

**Languages:** Python ([Top StackOverflow Poster](#), ~1M reached), C++, C, Java, JS, SQL, HTML/CSS, Bash, MATLAB, Simulink, MIPS, VHDL

**Tools:** Git, Jira, OpenCV, Matplotlib, Jupyter, NumPy, Pandas, JAX, PyTorch, Keras, Tensorflow, Colab, ROS, Google Cloud, Docker, Linux

## EXPERIENCE

**Software Engineering Intern, [Reliable Robotics](#)** — Mountain View, CA

May 2025 - Aug 2025

- Verified aircraft perception software with hardware-in-loop simulation and autonomous flight tests; submitted reports to FAA
- Integrated actuators to control airplane throttle levers into hardware in the loop simulation for robust flight software testing

**Software Engineering Intern, [Applied Materials](#)** — Santa Clara, CA

May 2024 - Aug 2024

- Developed nonlinearly constrained SQP optimization algorithms to automate tuning PID gains, algorithms verified in simulation
- Integrated C++ software into RTOS deposition tool update to deploy at customer's semiconductor factory, with Jira and Bitbucket
- Reduced tool calibration time by 5 hours with algorithm, saving customer millions in downtime cost, increasing wafer throughput

**Software Engineering Intern, [Vermeer Corporation](#)** — Pella, IA

May 2023 - Aug 2023

- Designed algorithms in ROS (C++/Python) and Simulink to classify, measure, & track hay bales on autonomous [bale-moving robot](#)
- Trained YOLOv5 on >2k LiDAR reflectivity images to track humans in safety-critical collision-prevention system, presented to CEO
- Registered dynamic LiDAR point clouds to robot frame in real time with PCL and Eigen to RANSAC-fit planes and model linkage
- Created PID controller with LiDAR feedback for hydraulic actuator to load variable-sized bales, halving number of intake faults

## RESEARCH

**Research Assistant, Georgia Tech [Contextual Computing Group](#)**

Aug 2024 - Present

- Conducted 35+ user studies to inform placement of display on AR glasses under [Prof. Thad Starner](#), results pending CHI publication

**Generative AI Researcher, [DuckAI](#)**

Oct 2022 - Aug 2024

- Created [Advanced Reasoning Benchmark](#), a difficult new LLM reasoning benchmark — presented ARB at NeurIPS (85 citations)
- Led [DuckTrack](#), an app to make multimodal computer agent datasets with screen, mouse, & keyboard tracking — 100+ downloads

**Research Assistant, Georgia Tech [Laboratory for Intelligent Decision and Autonomous Robots](#)**

Aug 2022 - May 2024

- Connected human-avoiding path planner (MPC) to C++ controls on Digit humanoid, trained JAX GP model to predict velocity error
- Made inverse kinematic controls for 4 DOF arm to 3D-image hydroponic plants, reducing 3D reconstruction time on GPU by 75%

**Research Intern, UIUC [National Center for Supercomputing Applications](#)**

Jun 2021 - Jun 2022

- Developed computer vision pipeline to detect temporally varying stars with Hubble Telescope. Published 86 such stars in [API](#)

## HACKATHON PROJECTS

[telepathy](#) — Won Best Hardware Hack award at Hack MIT — 216 teams participated

Silent speech interface using digital signal processing of mic data to enable real time tongue gesture communication with AI agents.

[Motherly](#) — Won Delve.ai Prize and Scrapybara Prize at Stanford Treehacks — 259 teams participated

Agentic AI mother that takes actions on your computer and in the real world to keep healthy, with wearable EMG sensing and massager.

[Bite](#) — Won TerraAPI Prize at Hack MIT (\$1.8k, VC meeting) — 173 teams participated

Created wristwatch with built-in camera for food recognition, calorie / vitamin intake tracking, and diet suggestions powered by GPT-3.5.

[CLaiM](#) — Won HyperbolicAI Prize at Berkeley Cal Hacks (\$1k) — 353 teams participated

App using video to make inventory of house for insurance claims after disaster: used Meta's Segment Anything, Qwen2VL & ChromaDB.

[LasAR Tag](#) — Won Georgia Tech AR/VR hackathon (0.5k, VC meeting) — 34 teams participated

Laser tag played with AR headsets: overhead camera tracks arena state with OpenCV, and Unity game polls Flask for current state.

[starveast](#) — Won Tabnam Prize at Georgia Tech Hacklytics — 78 teams participated

Weather-based song curation: trained LSTM on past music search / weather data to predict song vector, cosine matched from 1M songs.