Saaketh Reddy Chintha Reddy

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Georgia Institute of Technology	BS Mechanical Engineering	GPA: 3.90	*Aug 2020 – May 2025*
Georgia Institute of Technology	MS Mechanical Engineering	GPA: 4.00	*May 2025 – Dec 2026*

Experience

Georgia Institute of Technology — **Atlanta, Georgia**
Graduate Teaching Assistant – System Dynamics ME 3017 — *Aug 2025 – Present*

- Led weekly recitation sessions and office hours across all four course sections

Auriga Space — **Los Angeles, California**
Mechanical Engineering Intern — *Aug 2024 – Dec 2024*

- Led **rapid prototyping division** using FDM & SLA printers to design and print **20+** unique parts for **tooling** and **high load-bearing** applications. Reduced production costs by **90%** and prototype iteration time by **80%**
- **Designed shelving system** for over 6000 capacitors across 50 meters using **t-slotted aluminum extrusions**, optimizing volumetric efficiency in limited space while ensuring easy accessibility and installation
- Developed a novel test bench to analyze the **minimum pulse width detectable by photodiodes**. Also, enhanced sensor detection by **60%** by designing a **light-collimating setup** that tracks the position of a projectile moving over **2000 m/s**

Sandia National Labs (Q Clearance Applicant DOE) — **Livermore, California**
R&D Intern - Telemetry & Handling Gear Engineering — *Summer 2023 & 2024*

- Designed 3 unique fixtures for vibration testing of telemetry assemblies. Performed **modal & structural analysis** in **Creo** to ensure fixture integrity. Produced machine drawings with **GD&T** annotations
- Automated vibration & shock test data analysis using **MATLAB**, cutting work time by **75%** and saving **20+ hours weekly**
- Partnered with Pelican™ to design and engineer a **foam shipping container**, safeguarding a multi-million-dollar telemetry assembly from **impacts, vibrations, and ESD** during transport
- Defined requirements and procedures for both **thermal** and lifting rings **strength evaluations** for a classified gas detector, ensuring compliance with **DoD specifications**.

Flowers Invention Studio — **Georgia Tech**
Prototyping Instructor — *Aug 2023 – Present*

- Train over 20 students weekly on the use of **3D printers, waterjets, laser cutters, woodworking** and **metalworking tools**

Projects

Vertically Integrated Project (Robotics Lab - LiDAR) — *Jan 2025 – May 2025*

- Integrated **MuJoCo** simulations within a **ROS**-based architecture to study parameters on the different walking behaviors of Agility Robotics' Digit robot.
- **Optimized path planning** and obstacle avoidance by implementing object clustering, reducing processing time by 80%
- Engineered an innovative **gear-pulley** actuation mechanism for a parallel gripper to precisely track and transmit servo torque

Gesture-controlled RC car — *Aug 2023 – Dec 2023*

- Utilized a **Texas Instruments microcontroller** and integrated two **IMUs** using **Arduino** to capture hand gestures
- Developed **motor driver programming** with real-time **Bluetooth** communication for seamless gesture control
- Incorporated **omni wheels** and designed a custom chassis and wheel drive
- Implemented a **PID controller** using **motor encoders**, for constant velocity under loads of 5 lbs. and 30° slope

Research

LiDAR (VIP) — *Jan 2025 – May 2025*

- Integrated **MuJoCo** simulations within a **ROS**-based architecture to study parameters on the different walking behaviors of Agility Robotics' Digit robot.

- **Optimized path planning** and obstacle avoidance by implementing object clustering, reducing processing time by 80%
- Engineered an innovative **gear-pulley** actuation mechanism for a parallel gripper to precisely track and transmit servo torque
- Helped around with 3D prints, milling and silicone mold making
- Integrated an invariant-Extended Kalman filter state estimator in Digit

Environmental Fluid Mechanics Lab (VIP)   *Jan 2025 – May 2025*
- Led an undergraduate team in designing and prototyping

SEAL Georgia Tech Research Institute   **Smyrna, Georgia**
Undersea Sonar Signal Processing - Student Assistant   *Jan 2024 – May 2024*
 [J1] W. N. Newcomb, **S. Reddy**, A. Satish, and A. Medda, *"Time–frequency spectral optimization of underwater sonar acoustic returns for characterization using spectral descriptors,"* **J. Acoust. Soc. Am.**, vol. 156, pp. A25–A26, 2024

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Relevant Coursework
- Linear Controls ME 6401
- Dynamics of Mechanical Systems ME 6441
- Robotics ME 4451
- Robotics ME 6405
- Control of Dynamic Systems ME 4452
- Mechatronics ME 4505
- System Dynamics ME 3017
- Nonlinear controls ECE 6552 – future
- Optimization of Design AE 6310 – future
- Optimal Controls and RL – CMU online