

Mohan Chillara

mohan.kchill@gmail.com | linkedin.com/in/mohanchillara | github.com/mohanchillara1

EDUCATION

Dr. Justin Wakeland High School

Frisco, TX

GPA: 4.0000 UW | 5.2770/6.0000 W | Rank: 23/570

Aug. 2024 – May 2028

- **Awards:** 4th in the World @ BPA Nationals, Selected; Y Combinator Startup School @ San Francisco, FIRST Leadership Award Semifinalist, 2x FIRST Control Award, FIRST World Championship Qualifier
- **Related Coursework:** AP Calculus BC, AP Statistics, AP Physics C, AP Computer Science A, AP Research, AP Seminar, Advanced Part Configurations (Onshape PTC)

EXPERIENCE

Researcher, GRASP Lab (DAIR Lab)

Dec. 2025 – Mar. 2026

University of Pennsylvania

Remote

- Conducted applied mechanics research under Dr. Michael Posa, investigating material behavior to improve efficiency in bipedal and bimanual robotic systems, including the Unitree G1
- Experimented with material states and mechanical configurations to maximize performance efficiency across humanoid robotics platforms
- Preparing findings for submission to a peer-reviewed robotics/applied mechanics publication

Research Intern

Mar. 2026 – May 2026

Walmart Global Tech

Bentonville, AR

- Facilitated automation of enterprise supply chain workflows using Element and Apache Spark during recurring on-site engagements in Bentonville, AR
- Applied Quadratic Assignment Problem formulations and location allocation models to optimize product placement strategy across Walmart's global store network

Captain

Aug. 2024 – Present

Singularity Robotics

Frisco, TX

- Co-Founded team and secured \$50,000+ in funding through sponsorship outreach and technical grant applications to organizations including NASA, Raytheon, Texas Instruments, PGA, and the Department of Defense
- Designed robot subsystems using Onshape CAD, balancing structural strength against manufacturability under competition constraints
- Led team to an FIT District Fort Worth Alliance Championship and DCMP Rising All-Star recognition (2026); key member in gaining the Rookie All-Star Award, qualifying for the FIRST World Championship

PROJECTS

Robotic Foundation Model Research | Python, PyTorch, LIBERO-Pro, LAPA

May 2026 – Present

- Collaborating with a peer researcher to evaluate NVIDIA's Gr00t N1.7 generalist robotics model under degraded training-data conditions
- Leveraging LIBERO-Pro benchmarking and LAPA action-token generation to assess model translatability across manipulation tasks
- Advised by Dr. Aravind Chiruvelli (MIT); manuscript under review by Dr. Alice E. Smith (Auburn University)

2x Fully Autonomous Robots | Onshape CAD, Budget Operations

Aug. 2025 – Present

- Designed 2 fully functioning, robots(120-pound and 30-pound) for the 2026 Rebuilt and BioBuzz FIRST Competitions in Onshape and facilitated PID tuning
- Managed strategy defensively and offensively, planning autonomous path plans and alliance strategies
- Worked to ensure that all designs and strategies were cost effective and were created with physical assembly involving the use of power tools

TECHNICAL SKILLS

Robotics & CAD: Onshape CAD, Fusion 360 CAD, Applied Mechanics, PID Tuning, Java

ML/AI Research: Python, Pytorch, NVIDIA Gr00t N1.7, LIBERO-Pro, LAPA

Tools, Frameworks, & Libraries: Git, Github, React, Next.js, Astro, NumPy, Pandas, CSS

Data & Optimization: Apache Spark, Quadratic Assignment Problems, Large-Scale Allocation Modeling