Keegan May

Fort Worth, Texas | (806)283-3129 | keeganmay168@gmail.com

EDUCATION

Texas A&M University College Station, Texas
B.S: *Mechatronics Engineering* | ***Minor:*** *Embedded Systems Programming* | ***GPA:*** *3.04* **May, 2026**

PROFESSIONAL EXPERIENCE

BrYet Pharmaceuticals Houston, Texas
Process Engineer - Cancer Drug Delivery Systems **February, 2025 – Present**

- Implementing semiconductor manufacturing and biomedical techniques to develop an injectable silicon nanoparticle to act as a drug delivery system amplifying the effects of chemotherapy in cancer treatment.
- Analyzing nanopores on micron-sized particles using a Focused-Ion-Beam (FIB) microscope to provide feedback to GlobalFoundries on film non-uniformity and defects for micro-pillar array wafers.
- Introducing a nanoparticle tangential flow filtration (TFF) process significantly reducing process lead time.
- Formulating solutions to effectively target and eliminate cancer in tumor microenvironments with professors and doctors.

Medtronic Tempe, Arizona
Process Engineer - Biomedical Devices **July, 2024 – August, 2024**

- Qualified an automated semiconductor tool used for manufacturing micro-scale, injectable devices and sensors.
- Optimized facility throughput by 4.1% and improved tool capacity by 33% in photoresist strip and dry etch processes.
- Authored qualification documents and technical reports for LINQ-II cardiac monitors and diabetes sensor production.
- Developed a non-destructive inspection process using spectroscopic ellipsometry to detect contamination/defects.

Samsung Austin Semiconductors Austin, Texas
Equipment Engineering Technician - Chemical Vapor Deposition **June, 2022 – August, 2022**

- Designed digital SOP templates for equipment maintenance and documentation with CAD models and hyperlinks.
- Performed tool maintenance and troubleshooting in collaboration with engineers and technicians.

RESEARCH EXPERIENCE

Texas A&M Department of Multidisciplinary Engineering College Station, Texas
Research Assistant - Electromechanical Soft Robotics **August, 2023 – Present**

- Developing a soft robotics model incorporating flexibly actuated polyurethane gyroids.
- Designing CAD models and conducting FEA to guide design adjustments for parts with variable mechanical properties.
- PID tuning for IMU sensors to provide feedback on real-time 3D kinematics.

AggieFab Nanofabrication Facility College Station, Texas
Undergraduate Researcher - Electrical and Computer Engineering Department **September, 2023 – January, 2025**

- Developed thin-film characterization models for SiN, Si_3N_4, and SiO_2 using spectroscopic reflectometry.
- Trained 30+ researchers on semiconductor equipment for metrology, etch, and deposition.

LEADERSHIP EXPERIENCE

Texas A&M Robomasters Robotics College Station, Texas
Captain - 1st Place North America Championship Robotics Team **September, 2022 – Present**

- Led 140+ engineering students across electrical, mechanical, and programming sub-teams to design and fabricate robots for international competitions.
- Hosted STEM outreach volunteering events and conferences with local K-12 schools in our community.

Texas Combat Robotics College Station, Texas
Event Coordinator, Judge, Inspector **September, 2022 – March, 2024**

- Coordinated Texas A&M's largest robotics event featuring the BattleBots teams, Riptide and SubZero.
- Organized safety inspections, judging and live broadcasting of combat robotics events.

TECHNICAL PROJECTS

- Remotely-operated robot hand controlled by a glove with flex sensors using an ESP32 microcontroller.
- Drone landing pad with a bed-leveling system, with LiDAR and computer vision for obstacle avoidance and color tracking using a Raspberry Pi and Arduino Nano.
- Robotic snake performing lateral undulation with motion tracking and feedback control in MATLAB.
- Autonomous sentry robot with suspension drive-train and double-flywheel turret, used in navigation and object targeting.
- Remotely-operated magnetohydrodynamic submersible robot with sonar sensing and computer vision.

SKILLS

Computer Aided Design Proficiency: Solidworks, OnShape, Autodesk Inventor, Autodesk Fusion
Programming Language Proficiency: Python, Java, C, HTML, CSS, JavaScript, Assembly, ROS2
Manufacturing Skills: CNC Mill, Lathe, Laser Cutter, 3D Printing, Semiconductor Manufacturing, Additive Manufacturing
Certifications: Google Data Analytics, Microsoft Excel, Harvard CS50, Chemical Safety, Lean Six Sigma Green Belt
Other Activities: President of District Robotics Team, VP of Chess Club, Tennis Captain, Robotics Mentor