Terry Yu

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Education

University of California, Los Angeles Expected June 2027

Bachelor of Science in Mechanical Engineering - GPA: 3.70

Experience

Mechanical Engineering Intern June 2025 – September 2025

DropletPharma Corp. *Los Angeles, CA*

- Designed and tested custom microfluidic nozzle capable of dispensing 1 µL fluids with <5% variation across 100+ trials; applied Ishikawa root cause analysis through 10+ design iterations to systematically eliminate failure modes
- Engineered a compact 30 mm × 10 mm × 5 mm fume extractor for toxic vapor removal, optimizing airflow while maintaining serviceability under extreme packaging constraints
- CNC machined precision components from PEEK, PTFE, 6061 Aluminum, and 316 Stainless Steel to support R&D of chemical-handling systems

Research Assistant May 2025 – Present

UCLA Robotics & Mechanisms Laboratory (RoMeLa) *Los Angeles, CA*

- Designed and fabricated 30+ custom 3D-printed internal parts for RoMeLa's life-size humanoid Cosmo replica, enabling 18 articulated axes across head, torso, arms, and hands for adjustable display poses; integrated shell mounting systems
- Delivered the robot to Netflix for permanent public exhibition at conventions and events

Mechatronics Research Intern June 2024 – May 2025

Stanford University *Palo Alto, CA*

- Designed hardware for a computer-vision embryo sorter, projected throughput at 50 embryos/s with 99% accuracy
- Developed a PDMS-based microfluidics chip with a serpentine flow channel and quake valve sorter mechanism, ensuring quick and accurate imaging and sorting of millimeter-wide Xenopus embryo
- Fabricated SLA molds and FDM housings; integrated chip and electronics into a compact, modular unit

Incoming Engineering Intern September 2025 – December 2025

SpaceX *Hawthorne, CA*

- Offer accepted — Falcon Propulsion, Fall 2025

Leadership

Drivetrain Lead September 2023 – Present

Bruin Formula Racing *Los Angeles, CA*

- Led rear driveline system architecture for FSAE EV, redesigning hub torque transfer and shim/spring assemblies to cut serviceability time 20%, reduce weight 15%, improve competition score +6 pts, and boost reliability
- Directed team of 5 members and coordinated cross-subsystem integration with chassis/electrical under strict deadlines
- Oversaw in-house fabrication with HSMWorks and 3-axis CNC to ±0.003 in tolerances, introducing process changes that reduced manufacturing costs by 20% and improved manufacturing reliability
- Innovated custom CV boots and pouring process, iterating through 5 versions of mold with novel slider mechanism; ultimately replaced dysfunctional boots to enable reliable protection of joint while reducing cost by 50%

Projects

Pen Plotter | Project Link September 2024

- Developed custom bitmap to G-code slicer with image processing algorithms using Java, Python, and C++, enabling precise CoreXY motion control and real-time plotting communication with Arduino
- Built CoreXY pen plotter with fully 3D-printable recirculating ball bearing rails for precise, low-friction motion

Electric Go Kart | Project Link May 2024

- Led team of 4 in design, analysis, manufacturing, and assembly of a three-wheeled go kart with speeds of 15 mph
- Implemented a single-wheel front steering to reduce weight; used plasma cutting, machining, and 3d printing to manufacture components from recycled scrap, keeping costs <$100

Skills

Design & Analysis: SolidWorks, Ansys Mechanical, Ansys Fluent, Altair Inspire, Fusion 360, HSMWorks, GD&T
Prototyping: CNC & Manual Mill/Lathe, FDM/SLA 3D Printing, Waterjet, Plasma/Laser Cutting, Soldering
Programming: MATLAB, C++, Python, Arduino, Java