Terry Yu

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Education

University of California, Los Angeles Expected June 2026

Bachelor of Science in Mechanical Engineering - GPA: 3.76

Skills

Design and Analysis: SolidWorks, Ansys Mechanical, Ansys Fluent, Altair Inspire, Fusion 360, HSMWorks, GD&T
Manufacturing: Manual Mill, Manual Lathe, CNC, FDM and SLA 3D Printing, Waterjet, Plasma Cutter, Soldering
Electrical and Software: Java, MATLAB, Python, Arduino, C++, Visual Studio, Git, HTML, CSS

Experience

Supermileage Vehicle October 2023 – Present

Hydrogen Lead *Los Angeles, CA*

- Led 3 project teams of over 30 members for the design and analysis of hydrogen fuel cell to meet 1 kW requirement for competition car, dividing work based on individual strengths and skills for efficient progress
- Ran CFD simulations with Ansys Fluent, ensuring optimized flowfield design for water removal and mass transfer
- Generated CAM with HSMWorks for manufacturing in house on 3-axis CNC, cutting costs by over $200
- Successfully integrated Horizon Fuel Cell with competition car, passing hydrogen technical inspection
- Created comprehensive Notion workspace and slides, ensuring organized documentation and knowledge transfer

Bruin Formula Racing September 2023 – Present

Sprocket Responsible Engineer *Los Angeles, CA*

- Led design and optimization of sprocket and chain assembly, including front/rear sprockets, chain, and motor shaft
- Achieved 42% weight reduction in sprockets with topology optimization in Altair and FEA simulations on Ansys
- Drafted engineering drawings with GD&T standards, ensuring precise and cheap manufacturing of assembly
- Designed and poured custom CV boots, iterating through 5 versions of mold with novel dovetail slider mechanism, ultimately replacing dysfunctional boots to enable reliable protection of joint while reducing cost by 50%
- Manually machined spacers and tabs for drivetrain and suspension systems to connect key components to chassis

Stanford University June 2024 – Present

Research Intern *Palo Alto, CA*

- Designed and manufactured hardware components on computer vision based Xenopus embryo sorter for the Beel Research Group, projected to sort 50 eggs per second 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
- SLA printed mold and casted chip, FDM printed interations of housing for chip and all electrical components

Projects

Pen Plotter | *ty1649.github.io/projects/personal-pp* September 2024

- Designed and 3d printed a custom CoreXY belt configuration pen plotter, featuring fully 3d-printable recirculating ball bearing linear rails for precise, low-friction movement
- Developed a bitmap image to G-Code slicer with Java/image processing algorithms, optimized for CoreXY control
- Integrated uninterrupted real-time G-Code communication and interpretation on Arduino using Python and C++

Electric Go Kart | *ty1649.github.io/projects/personal-egk* May 2024

- Led team of 4 in design, analysis, manufacturing, and assembly of a 3-wheeled go kart with speeds of 10-15 mph
- Used plasma cutter, band saw, drill press, mill, laser cutter, and 3d printer to manufacture parts from recycled scraps, reducing total cost to under $100
- Innovated single wheel steering with bevel gear mechanism to achieve significant weight savings over competitors

Fingerprint Door Unlocker | *ty1649.github.io/projects/personal-fdu* June 2024

- Designed and 3d printed Arduino controlled device to unlock dorm door with fingerprint, using lead screw mechanism for linear motion, eliminating need for key card and reducing time required to enter dorm by 50%