Ryan Yang

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EDUCATION

University of Michigan, Ann Arbor Ann Arbor, MI
M.S. Aerospace Engineering – GPA: 3.93/4.0 *Sept 2024 – May 2026 (Expected)*

University of California, Irvine Irvine, CA
B.S. Mechanical and Aerospace Engineering – GPA: 3.8/4.0 *Sept 2019 – Apr 2024*

SKILLS

Skills: ANSYS Fluent, MATLAB, SolidWorks, xflr5, Python, Tecplot 360, Additive Manufacturing
Course Highlights: Finite Element Methods, Heat Transfer, Fluid Mechanics, Aircraft Design

WORK EXPERIENCE

Graduate Student Instructor, University of Michigan Ann Arbor, MI
GSI for Aerospace Propulsion *Aug 2024 – Apr 2025*

- Advising students with topics related to thermodynamics, compressor and turbine, propulsion

RESEARCH EXPERIENCE

A Pair of DBD Plasma Actuators on Circular Cylinder Irvine, CA
Undergraduate Researcher (Supervisor: Dr.Feng Liu) *Apr 2023 – Apr 2024*

- Simulated dielectric barrier discharge (DBD) plasma actuators over a circular cylinder using CFD to analyze flow control performance.
- Identified mechanisms for vortex shedding mitigation and flow separation delay, achieving reductions in lift/drag fluctuations
- Optimized actuator frequency, duty-cycle, and input power to maximize drag reduction and energy efficiency.

UCI Undergraduate Research Opportunity Program Irvine, CA
Undergraduate Researcher (Supervisor: Dr.Feng Liu) *Dec 2023 – Apr 2024*

- Applied dynamic mode decomposition (DMD) to extract dominant flow structures induced by DBD actuation over a cylinder
- Predicted transient aerodynamic responses by decomposing flow field into spatial-temporal modes.

A Spherical Storage Tank for Liquid Hydrogen Irvine, CA
Undergraduate Researcher (Supervisor: Dr.Jaeho Lee) *Jan 2023 – Jan 2024*

- Tested the efficiency of glass bubbles material on persisting cryogenic liquid hydrogen
- Conducted the simulations using ANSYS fluent, introducing physics conditions such as solar radiation, turbulence, and two phase flows

PROJECT EXPERIENCE

AIAA Design/Build/Fly Irvine, CA
Fuselage Team member *Sept 2023 – Apr 2024*

- Designed airplane with 3.0 thrust-to-weight ratio & 4G overload; implemented mini payloads as mission. ranked Top 10/107 globally
- Led aerodynamic optimization (SolidWorks, xflr5), manufactured foam-carbon-3D-print composite fuselage
- Streamlined build-test loop by 2 weeks via modular 3D-printed components

UCI Rocket Team – Solid Irvine, CA
Payload Team member *Sept 2022 – Jun 2023*

- Designed a payload for a 2m-rocket with 10000ft apogee. Engineered a sysytem to deploy glider as the payload of rocket, including glider aerodynamic design, secure system and ejection system
- Manufactured glider nose and wing folding mechanism using 3D printing, wing surface wrapping using carbon fiber sheet, wing surface wrapping using carbon fiber sheet

UCI Drone Team Irvine, CA
Mechanical Engineer *Oct 2019 – Mar 2020*

- Designed quadcopter chassis with SolidWorks and manufactured; integrated DJI flight controller
- Built Arduino-based payload-drop mechanism using vision + ultrasonic sensing.