# Thomas Ibrahim

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## EDUCATION

**University of California, Irvine** 06/2027
*B.S. Aerospace Engineering* Irvine, CA
GPA: 3.87

## RESEARCH

**Flapping Wing Micro Air Vehicle (FWMAV) Research Team** 09/2025 – Present
*University of California, Irvine*
• Contributing to the design and development of a variable X-frame flapping-wing vehicle to investigate optimal wing angles for mobility, lift, and aerodynamic efficiency.
• Applying mechanical design, control systems, and aerodynamics principles to prototype a novel flapping mechanism inspired by natural flyers.

**Spacecraft Thermal Management System Research Team** 09/2025 – Present
*University of California, Irvine*
• Conducted research with the CubeSAT team on variable-emissivity thermal devices to improve spacecraft temperature control in non-convective, non-conductive environments.

## PROJECTS

**Vehicle Efficiency Modeling using OBD-II and MATLAB** 01/2025 – 02/2025
*Class Project - MATLAB for Engineers*
- Collaborated in a 4-person team to collect real-time vehicle data over 3 different vehicle states (acceleration, cruising, and braking) via OBD-II and utilized MATLAB to process and predict fuel efficiency from over 1800 data points under various driving conditions.
- Modeled acceleration and steady-state fuel efficiency using MATLAB curve fitting and predictive analysis.
- Demonstrated skills in sensor data analysis, data modeling, and MATLAB programming.

**High Speed X-Frame Quadcopter** 08/2025 – 09/2025
*Personal Project*
- Designed, modeled, and 3D printed a working quadcopter with the ability to grab and drop payloads using a claw.
- Designed and soldered the flight controller, motors, receiver, servo, and other electronics.
- Conducted multiple test flights, tweaked and optimized flight controller settings.

**6 DOF Remote Controlled Robotic Claw** 08/2025 – 10/2025
*Personal Project*
- Engineered a 6-DOF robotic claw with custom Arduino firmware in C++, combining mechanical design, servo actuation, and 3D-printed structures for precise multi-axis motion.

## SKILLS

Solidworks | MATLAB | Finite element analysis (FEA) | Fusion360 | Microcontrollers | C++ | Leve 1 National Rocketry Association Certified