

# Tim Drake

St. Louis, MO | Chicago, IL  
224.456.1006 | [tim@timdrake.org](mailto:tim@timdrake.org)

## EDUCATION

**Saint Louis University | St. Louis, MO**

**Expected Graduation: May 2024**

Bachelor of Science: Aerospace Engineering

## RELEVANT EXPERIENCE

**Senior Design Project – St. Louis, MO**

**August 2023 – Present**

*Project Manager*

- Lead the design, build, test, and launch of airbrake control system
- Built closed loop controller that extends AIRBRAKES based on real-time atmospheric data
- Oversee the testing of optimal AIRBRAKE shape and position using various CFD simulations
- Manage project deadlines and responsibilities

**AirCRAFT Lab Flight Testing – St. Louis, MO**

**June 2023 – Present**

*Student Worker*

- Personally configured 20 desktop (80 nodes) Linux cluster enabling parallel processing of various CFD simulations
- Developed a user-friendly environment to simulate 3D models using OpenFOAM
- Published user guide documentation for cluster
- Train drone recognition from live video on an 80-node computer cluster
- Constructed modular drone obstacle course structures from blueprints
- Proficient use of machines such as a mill, water jet, and table saw
- Managed budget and specified supplies

**Saint Louis University Rocket Propulsion Lab – St. Louis, MO**

**April 2022 – Present**

*President*

- Revived designing, researching, and building high power rocket for Spaceport America competition
- Spearheaded recruitment effort that increased student participation by 300%
- Manufactured custom carbon fiber rocket airframes in lab applying industry used winding techniques
- Educate members on basic rocketry concepts and hands-on rocket manufacture techniques
- Facilitated the construction and launch of Level 1 HPR rocket kits for all members of the Rocket Propulsion Lab
- Managed \$7500 budget lab supplies and purchases
- Created a CFD environment to simulate the behavior of rockets in-flight

## SPECIALIZED SKILLS

### Programming

- Matlab
- Simulink
- Python
- C++
- Bash

### 3D Design

- SolidWorks
- Fusion 360
- 3D Printer Maintenance

### Analysis Software

- OpenFOAM
- ParaView
- Ansys
- OpenRocket

## CONFERENCE PUBLICATIONS

**American Society for Engineering Education (2024 Conference)**

- *Student Rocketry – Out of Class Learning Experiences from a Year-Long Capstone Project at University*

**American Institute of Aeronautics and Astronautics (2024 Conference)**

- *Project RADARS Rocket Altitude Determination and Response System*

## CERTIFICATES AND AFFILIATIONS

- ITAR Certification
- High Power Rocketry Level 1 Certification
  - Tripoli Rocket Association
- National Association of Rocketry