

# Alexander Coppeans

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US Citizen

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## EDUCATION

**University of Michigan**, College of Engineering, Ann Arbor, MI  
Bachelor of Science, Aerospace Engineering  
Minor: Physics  
GPA: 3.97/4.00; Dean's List

**April 2020**

**Relevant Courses:** Gas Dynamics, Solid Mechanics and Aerospace Structures, Aerospace Engineering Systems, Dynamics and Vibrations, Intro to Materials, Circuits

## ENGINEERING EXPERIENCE

**M-Fly Student Project Team**, Ann Arbor, MI

**Sept. 2017 – Present**

*AUVSI SUAS Airframe Member*

- Designed drop system, landing gear and interface in SolidWorks to optimize electronics layout and protect drop system upon landing
- Analyzed landing gear using SolidWorks Simulations to choose material that produced minimal deflection and was under mass limit
- Manufactured water bottle drop system prototypes using wood laser cutter and 3D printer and redesigned system to meet manufacturing and mass constraints that were discovered during prototype testing
- Modeled system internals in SolidWorks to calculate center of gravity placement resulting in steady level flight
- Laser cut wood housings for system internals to protect system integrity during flight and landings
- Integrated gimbal and camera into airframe for best field of view for camera and center of gravity balance to provide clear pictures for image recognition and not affect flight stability

*Advanced Class Manufacturing Member*

- Attended daily manufacturing sessions to manufacture, test, and finalize structures for advanced class aircraft
- Constructed universal thrust stand and calibrated load cell to test used for static and dynamic thrust testing for the team's engines to have precise thrust data

**Remotely Operated Underwater Vehicle Project**, Ann Arbor, MI

**Oct. 2016 – Dec. 2016**

*Team Member*

- Designed and manufactured ROV body to match team CG and buoyancy needs leading to steady control
- Optimized ROV body and thruster placement using thrust stand to maximize maneuverability resulting in the fastest time in maneuverability competition
- Designed ROV controller and wiring schematic resulting in easy piloting

## CAMPUS INVOLVEMENT

**Tau Beta Pi National Engineering Honor Society**, UofM, *Initiate*

**Jan. 2018-Present**

**Sigma Gamma Tau National Aerospace Engineering Honor Society**, UofM, *Initiate*

**Jan. 2018-Present**

## SPECIALIZED SKILLS

**Programming Languages:** Matlab, C++, Java

**Programs:** SolidWorks, CATIA, Microsoft Office

**Manufacturing:** Machine Shop, Laser Cutting, Carbon Fiber and Fiberglass Molding