

Patrick Chapates

1810 Potomac Plc. #C / College Station, TX / 77840 / (214) 926-1918 / pjchapates@gmail.com

MS Aerospace Engineering, Texas A&M University - College Station, TX, May 2019 (Anticipated) - **GPA: 3.63**

BS Aerospace Engineering, Texas A&M University - College Station, TX, 2017 - **GPA: 3.28**

June 2017 to Present: Graduate Research Assistant, Aerospace Human Systems Lab, Texas A&M University - Responsible for executing daily research tasks to support overarching research projects. Supervise and manage undergraduate research assistants. Develop high-level research plans and schedules using Microsoft Project that directly fulfill ongoing and proposed projects. Assist in proposal and research paper writing.

- Developed non-linear finite element model using Abaqus/CAE and Python to study interaction between spacesuit glove and crewmember hand.
- Presented finite element model of the interaction between human hand and EVA glove at 2018 International Conference on Environmental Systems Poster Competition.
- Leading systems engineering project utilizing SolidWorks to design and develop partial-vacuum glove box for spacesuit glove research.
- Developed training procedures and operational manuals to efficiently train incoming graduate students on laboratory scanning, analysis and 3D printing systems.

February 2016 to May 2017: Undergraduate Research Assistant, Aerospace Engineering, Texas A&M University - Responsible for development of visualization software to view results from proprietary finite element code using a C#/WPF GUI and managed C++ wrapper to interface with legacy unmanaged C++ in-house code. Responsible for defining project milestones and schedules.

- Created robust visualization utility for viewing stress/displacement contours on complex 3D bodies.
- Created interactive script editor for in-house finite element code using VSTO Add-In for Microsoft Word.

March 2016 to December 2016: President, Texas A&M Sailing Club, College Station, TX - Responsible for all activities and operations of a club of ~40 members. Managed group of 4 club officers. Responsible for running safety and skills training for new members. Responsible for maintenance of fleet of 30 boats. Interfaced with faculty advisor to budget and plan financial state of club.

- Achieved 30% growth in club membership through successful marketing campaign.
- Achieved 10% increase in fleet size through successful organization of maintenance events.

January 2015 to May 2015: AGGIE Challenge Member, Aerospace Engineering, Texas A&M University - Responsible for working with a team of 10 undergraduates to design a high-temperature quadcopter for wildfire reconnaissance. Worked as part of the electrical sub-team to design and perform bench-top experiments to evaluate electronic insulation designs and to quantify battery performance in high temperatures.

- Successfully developed analytical model to characterize battery output as a function of temperature.
- Secured additional project funding through end-of-semester final report.

June 2014 to August 2014: Software Development Intern, Phymodo, Dallas, TX - Worked as part of a ~10 person team to develop sports-science software to directly support the needs of professional sports team client. Worked in AGILE software development environment. Met directly with customers to give progress updates, software demos and define project requirements.

- Used C# and Microsoft Kinect to develop comprehensive software to evaluate athlete performance.
- Used C# and Microsoft Kinect to develop prototype software to detect patient falls in assisted care facility.