

Jacob Amontree

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Education

Bachelor of Science in Mechanical Engineering

University of Florida, Gainesville, FL
Cumulative GPA 3.87/4.00

May 2018

Technical Skills

Computer: Certified SolidWorks Mechanical Design Associate, LabVIEW, FEM SolidWorks simulator, MATLAB, COMSOL, AutoCAD, Microsoft Access, Autodesk Inventor, Autodesk Fusion 360, Studio 5000 Logix Designer, Microsoft Excel and Draftsight.

Manufacturing: CNC/manual lathe and milling machines

Work Experience

Research Assistant, UF Interdisciplinary Microsystems Group September 2016-present

- Mechanical optimization of microfluidic devices for CTC analysis in Dr. Fan's laboratory
- My research goals are: increase tumor cell capture efficiencies in filter-based microfluidic devices; discover alternative methods for single cell transfer and injection to assist with: chemical flow cytometry, droplet multiphase systems, and atomic force microscopy; design and fabricate micro-macro interface fixtures to optimize syringe-pump infusion techniques; conduct material analysis on thermoplastic photoresist substrates.

Intern, RND Automation & Engineering April 2016-August 2016

- Designed, manufactured and retrofitted custom automation & material handling machinery
- My responsibilities included: PLC programming using Studio 5000 Logix Designer, part drawing inspection, machine shop assistant, electronic panel layout and assembly, frame construction and assembly staging

Activities

Team Member-Payloads, UF rocket team Fall 2015-Spring 2016

- The two payloads created were describes as: Auto-Rotational payload that could change angle of attack to control flight path; and Hazard Detection payload that assigned red to blue color scales to relay safe landing zones to Auto-Rotational payload.

Team Member, AeroGators Fall 2014-Spring 2016

- Constructed airplanes for human flight using Solidworks and aerodynamic analysis

Member, UF Tau Beta Pi Honor Society Spring 2017-present

Member, UF Pi Tau Sigma Honor Society Fall 2016-present

Member, UF American Society of Mechanical Engineers Spring 2015-present

Member, University of Florida Wakeboard Team Fall 2014-present

Senior Patrol Leader, Boy Scouts of America 2013-2014

- Responsible for planning and leading weekly troop meetings

Honors and Awards

Eagle Scout Rank 2013

Design and Manufacturing Laboratory Student Competition~2nd Place Spring 2016

University of Florida College of Engineering Dean's list Spring 2015-Fall 2016

University of Florida Honor Roll Fall 2016

University Scholars Program Recipient Spring 2017

Community Service

Volunteer, Art in Engineering Fall 2016

- Worked with other UF Pi Tau Sigma members to host an event to showcase the area where art and engineering unite

Leader, Eagle Scout Service Project Spring 2013

- Created and implemented a landscaping project for my local church