
EDUCATION

Bachelors of Science: Mechanical Engineering

AUG 2016 - JUNE 2020

Georgia Institute of Technology, Atlanta, GA

GPA

Robotics Minor

Studied abroad at Georgia Tech Lorraine in Metz, France

WORK EXPERIENCE

JUNE 2016 - AUG 2018

UCLA Recreation | LEAD SAILING COORDINATOR

- Coordinated the daily plan and goals for 20 co-workers
- Responsible for safety of UCLA sailors on and off the water
- Taught sailors with skill levels ranging from beginner to advanced
- Advanced from instructor to lead coordinator

ACADEMIC LEADERSHIP PROJECTS

AUG 2018 - APRIL 2019

GTRI Agricultural Robotics | UNDERGRADUATE RESEARCHER

- Researched, integrated, and programmed stereo depth and SLAM LIDAR units for brachiating robot
- Processed color and depth video using openCV to identify a thin cable in harsh environmental conditions
- Implemented ROS (Robot Operating System) to record, communicate, and log robot and sensor state
- Developing a standalone cable-pose sensor for feedback controls of a robot and flexible cable system

AUG 2016 - APRIL 2017

Robojackets | TEAM MEMBER

- Lead design of a 3lb combat robot including CAD and Design for Manufacture
- Performed Finite Element Analysis on weapon subsystem to prevent catastrophic and fatigue failure
- Manufactured robotic components using precision machinery including CNC mills, lathes, and waterjets
- Created autonomous path planning and motion profile algorithm using MATLAB

AUG 2016 - APRIL 2017

GT Motorsports | POWERTRAIN TEAM MEMBER

- Simulated engine dynamics to increase efficiency and low-end torque by lowering power-band
- Designed improved camshaft to match optimal lift profile

AUG 2011 - JUN 2016

MilkenKnights FRC Team | TEAM CAPTAIN

- Used Lean and Six Sigma principles to streamline manufacturing and assembly process
- Managed 60 students in rapid prototyping, designing, and manufacturing a robot in six weeks
- Created top-down Solidworks models of transmissions, manipulators, and complex linkages
- Implemented position PID, velocity PID, vision tracking, motion profiles, and path following
- Trained students in CAD and operating precision machinery including a mill, lathe, and CNC router

AUG 2016 - DEC 2016

3D Printing Design Project

- Surface modeled an X-Wing, designed to be SLS printed to minimize part count and ease assembly
- Performed Geometric Dimensioning and Tolerancing to ensure functionality
- Created manufacturing drawings, assembly diagrams, and sections views for a technical report
- Final print is used as an example of excellent modeling technique and novel usage of SLS 3D printing

AUG 2017 - DEC 2017

Creative Decisions and Design Competition

- Utilized CAD and laser cutting techniques to enable rapid prototyping, ideation, and manufacturing
- Wrote technical project reports outlining design process, decisions, and future improvements
- Presented our machine, design decisions, and process to a panel of qualified judges
- Programmed a NI myRio to execute a system of automated tasks using LabView

TECHNICAL SKILLS

CAD	Solidworks (8 years), Autodesk Inventor (9 years), Master Model, Top-down Design, Parametric Design, Surface Modeling, 2D & 3D Manufacturing/Installation Drawings, Geometric Design & Tolerancing, Design for Manufacture (DFM), Design for Assembly (DFA), Finite Element Analysis (FEA)
Fabrication	G-Code, CNC Mill, Manual Mill, Manual Lathe, Laser Cutter, Waterjet, 3D Printer, Selective Laser Sintering (SLS), Drill Press, Bandsaw, Soldering Iron
Programming	MATLAB, Java, Python, Git, Bash, Robot Operating System (ROS), OpenCV, LabView, Android, \LaTeX
Mechatronics	NI cRio/myRio/roboRio, Arduino, Servo Motors, Intel Realsense Stereo Camera, SLAM LIDAR, Sonar, Hall Effect, Pneumatic Actuators, Encoders, Solenoids, IR Sensors, Wire Harness
Software	Adobe Illustrator, Linux, Ubuntu, Emacs, Vim, Inkscape, Gimp, Excel, Word, MacOS, Windows
Instruments	Micrometer, Caliper, Oscilloscope, Multimeter
Communication	Oral Reports, Technical Reports, Documentation, Executive Summaries, Progress Reports, Bill of Materials (BOM)
Planning	House of Quality, Specification Sheet, Morph Chart, Function Tree, Gantt Chart, Evaluation Matrix

AWARDS & HONORS

DEC 2016	to Present	Georgia Tech Dean's List
Nov 2017	7th/60	Georgia Tech ME2110 Design Competition