David Hoddinott

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Core Competencies

Agile Project Management	Team Leadership	Stakeholder Communication	Resource Management
Aeromechanical Design	Rapid Prototyping	Composites fabrication	Data Analysis and modeling
Flight Testing	Root Cause Analysis	Problem solving	CAD & Simulations

Experience

AeroViornment, AeroMechanical Engineer III   July 2021 – Present

- Project Team Lead: Maritime Aircraft
  - Led a daily scrum of five engineers and two technicians, along with bi-weekly planning meetings to ensure project milestones were met.
  - Responsible for the design, prototyping, and testing of a new aircraft capable of operating in maritime environments, including shipboard launch and landing.
  - Planned and executed flight test events
  - Developed and managed project timelines and budgets.
- Project Team Lead: Cold Weather Hardening
  - Led a team of 2 engineers and 2 technicians to design and prototype a 'bolt-on' cold weather kit for existing aircraft.
  - Successfully lowered the aircraft temperature limitations from +32f to -40f with a 1% increase in weight and less than a 5% decrease in endurance.
- Mishap Investigation
  - Led mishap investigations, conducting in-depth critical failure analyses aimed at preventing future system crashes.
  - Successfully diagnosed and investigated three distinct mishaps, employing a comprehensive approach to identify root causes, and contribute to proactive safety measures.
- Estimated project costs and timelines, ensuring alignment to company budgetary constraints and client expectations.
- Worked with CAD via Solidworks, Plane design and flow analysis in Flow5/XFLR/XFOIL, data analysis and parsing in MATLAB.
- Worked with composites, CNC machining, traditional fabrication techniques, microcontrollers and soldering.

AEROSONIC, Aeronautical/Mechanical Engineering Intern   June 2019 – Aug 2019

- Designed and fabricated test fixtures for aircraft sensors and maintained databases of parts and drawings using SolidWorks PDM.

Rensselaer Architecture Shop, Fabrication Assistant   May 2018 – March 2020

- Worked with laser cutters, CNC milling, 3D printing and basic woodworking techniques to manufacture prototypes for both student and staff projects. Handled installation and maintenance of shop systems.

National Institute of Standards and Technology, Undergraduate Research Fellowship   May 2017 – Aug 2017

- Performed high precision laboratory experiments (Thermogravimetric Analysis) to characterize wild Vegetation and improved wildfire CFD inputs through python based analysis.

Education

Rensselaer Polytechnic Institute, Troy, NY

M.Eng. Aeronautical Engineering, GPA: 3.66, *cum laude*   Jan 2020 – Dec 2020
B.S. Aeronautical Engineering and Mechanical Engineering, GPA: 3.65, *cum laude*   Sep 2016 – Dec 2019

Collegiate Projects

Master's Project: Control of a Realistic Multibody CubeSat   Jan 2020 – Dec 2020

- Compared control algorithms for the attitude and angular velocity of a 3U CubeSat.
- Developed a multibody dynamics model using Autolev and C, and implemented control systems with MATLAB, including PID tuning and Extended Kalman Filtering/Linear Quadratic Regulation.

Skills

Languages: MATLAB/Simulink, C, Python
Applications: Autodesk Inventor, Siemens NX (Including NASTRAN FEA package), Solidworks, Microsoft Office, Autolev, AGI Systems Tool Kit, Rhino, SPICE
Fabrication Skills: Rapid prototyping, composite layups, metalworking and woodworking (including CNC), 3D printing, GD&T
Project Management: Agile/Jira tools