Alexander Hanna

hanna35@purdue.edu ~ (203) 940-3234

OBJECTIVE

Aeronautical and Astronautical Engineering student seeking a control systems engineering internship working on the design, development, and testing of unmanned air mobility systems.

EDUCATION

B.S. Aeronautical and Astronautical Engineering, Purdue University *May 2020 – Dec 2023*

Specialization: Autonomy and Control
Minors: Computer Science, Economics, Mathematics
GPA: 3.71/4.00

WORK EXPERIENCE

Honeywell Aerospace, Control Systems Engineer (Tempe, AZ) *Summer 2022*

- Analyzed effects of 3 phase motor commutation offset on torque constant with MATLAB script.
- Analyzed performance of closed loop control systems using Simulink and MATLAB.
- Wrote acceptance (ATP) and quality test procedures (QTP) for hydraulic actuator systems.
- Developed documentation and validation procedures for active and static test stand command generator.
- Determined cause of failed acceptance test by reducing lab data with Dewesoft and constructing 5 Why's.

Greenwich Country Club, Head Lifeguard (Greenwich, CT) *Summer 2021*

- Managed a team of 25 lifeguards, controlled pool chemical levels, and assisted the club engineering team.

AWH Web Design, Freelance Web Developer *2019 - 2021*

- Designed, programmed, and managed websites for numerous companies, clubs, and individuals.
- Coded and maintained multiple Birth Bungalow LLC. affiliate websites including MidwiferyClaims.com.

ENGINEERING PROJECTS

NASA FLOATing DRAGON Balloon Competition *Spring 2023*

- Developing an autonomous glider capable of transporting payload from 120,000ft altitude to 800ft radius landing
- Leading fuselage design and manufacturing using Solidworks

Purdue Unmanned Aerial Systems Lab *Fall 2022 - Spring 2023*

- Building a quadcopter to autonomously tag and analyze plant growth in vertically integrated farms using ROS2
- Built a quadcopter used to deliver lifesaving devices to people experiencing an overdose in remote regions

Purdue Orbital Rocket Optimization Team *Spring 2021 – Spring 2022*

- Optimized liquid and solid fuel engines of an orbital multi-stage rocket using MATLAB and NASA-CEA
- Researched experimental data regarding solid and liquid fuel and oxidizer performance

AAE251: Intro to Aerospace Design *Spring 2021*

- Designed an autonomous aircraft to deliver COVID vaccines to remote regions in a 5-person team
- Wrote aircraft sizing code (MATLAB), calculated flight parameters, and produced an NX CAD model

SKILLS

MATLAB, Simulink, Python, C, C++, NX, Java, JavaScript/HTML/CSS, Microsoft Office, LaTeX, Slack, Spanish

LEADERSHIP AND INVOLVEMENT

Phi Gamma Delta Fraternity - President, House Manager, Graduate Relations Chair	*Fall 2020 – present*
Sigma Gamma Tau (AAE Honor Society) - Fundraising Chair	*Fall 2021 – present*
Eagle Scout, Senior Patrol Leader, Order of the Arrow	*2013 – 2020*
Water Polo (Purdue Men's Club Team), Swimming	*2010 – present*

HONORS AND AWARDS

Purdue University Dean's List, Semester Honors	*Fall 2020 – Fall 2022*
Persistence Scholarship	*Fall 2022*
Charles A. Jennings Scholarship	*Spring 2022*
Triple A Scholarship	*Fall 2021*
M3 Math Modelling Competition Semi-Finalist	*Spring 2020*

COURSES

Multi-Agent Autonomy & Control, Systems Analysis & Synthesis, Dynamics and Control, Control Systems Analysis, Propulsion, Aerodynamics, Dynamics and Vibrations, Structural Analysis, Fluid Mechanics, Aeromechanics I & II, Thermodynamics, National Security Affairs, Partial Differential Equations, Linear Algebra, O-O Programming, C Programming, Data Structures and Algorithms, Microeconomics, Macroeconomics, Game Theory