Gerald Mace

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LinkedIn
Portfolio

OBJECTIVE

Mechanical Engineer with 2 years experience in a professional design environment seeking a position focused on designing robotics and mechatronic systems.

EDUCATION

University of Maryland, College Park — January 2018-June 2019
BS, Mechanical Engineering — College Park, MD

College of Southern Maryland — May 2015-December 2016
ASE, Engineering — La Plata, MD

WORK EXPERIENCE

Undergraduate Researcher — March 2018-June 2019
University of Maryland Mechanical Engineering Department — College Park, MD

- Proposed and presented a 24-page research plan to design and develop a small and portable wind tunnel device for undergraduate research and testing.
- Conducted 2 initial tests of power efficiency and air turbulence and created a mathematical model to represent the tunnels initial and predicted performance.
- Calculated the required power to produce speeds between 4 to 10 meters per second, and researched the components required to meet the designated goals set by my research sponsors.
- Assembled a closed loop control system which operated a brushless motor that would vary in power consumption based on the difference in air pressure the tunnel would produce.
- Actuated the motor based on sensed changes in RPM and pressure and produced accurate velocity profiles within 0.1 meters per second of the user's desired speed.
- Displayed valuable information to a user with the Arduino IDE by converting the raw bit information into values of pressure, velocity, and power consumption.

Engineer / Permit Coordinator — October 2017-Present
Dewberry Engineers Inc. — Lanham, MD

- Draft water and sewer plans for 150+ lot subdivisions. Plans can have 2-6 phases and involve coordination with 3-4 other Engineering teams.
- Simultaneously work on 3-4 projects to get them permitted and constructed through daily plan design, communication, coordination, and research for better engineering practices.
- Correspond with PG County government agencies in delivering and acquiring plans or permits for my coworkers, project managers, and clients.
- Work daily with AutoCAD equipped with 2 other design toolkits (C3D and Carlson) based on the current project demands and requirements.

SKILLS

Product Development Process

- Feasibility Testing and Analysis
- 3D Printing for Prototyping and Functional use
- DFM Practices
- Safe and Proper machine shop practices

Mechatronics and Coding

- Circuit Design and Analysis
- Electromechanical Actuation
- Converting raw data and code into readable information
- Matlab data sampling
- Program Microcontrollers to run software to drive hardware
- C/C++

CAD Packages

- SolidWorks
- Autodesk Inventor
- AutoCAD
- Creo
- SketchUp

Plan Drafting

- Follow proper Company and Government standards
- GD&T definitions and usage
- Draft neat and easy to understand plans and schematics

Professional Etiquette and Experience

- Polite and accommodating to clients and government parties
- Quick to address Client queries and requests
- Communicate well with fellow engineers
- Eager to train and guide others