Timothy Mayer

801 S Millvale Ave, Pittsburgh PA, 15213 | (607) 744-9912 | tmayer18@aol.com

Education

Carnegie Mellon University, Pittsburgh, PA — May 2024

Anticipated **Master of Science in Mechanical Engineering - Research**
Focus**: Controls, Robotics**
Related Coursework: Linear Control, Robot Dynamics, Multivariate Control
GPA: 3.8

Trine University, Angola, IN — May 2022

Bachelor of Science in Mechanical Engineering
Minors**: Robotics, Mathematics**
Related Coursework: Systems and Controls, Fluid Mechanics, Complex Variables, Microcontrollers
Electromagnetic Fields, Measurements, Artificial Intelligence
GPA: **4.0**

Skills

- Inventor, Solidworks, NX
- ANSYS Fluent and CFX
- ROS Robot Programming
- Gazebo Robotics Simulator
- PID Control Loop Tuning
- Experimental Data Acquisition
- MATLAB, Python, C
- Simulink Data Processing
- LabVIEW workbench
- Control Systems Design

Experience

Senior Design Project, Trine University, Angola IN — August 2021 – May 2022

Vertical Axis Wind Turbine Optimization

Undergraduate Researcher

- Tested and validated computational fluid dynamics simulations to predict turbine behavior
- Developed a Genetic Algorithm to optimize the geometry of a Lenz-based Vertical Axis Wind Turbine to improve efficiency and startup

ApREECE REU, Oakland University, Rochester, MI — May 2021 – August 2021

Error-Correction in Underwater Inertial Navigation

Undergraduate Researcher

- Developed and simulated novel subsea navigation techniques for autonomous underwater drones, using the Gazebo platform for rapid iteration
- Taught myself the ROS robotics framework to quickly create and test virtual robots

Innovation One, Angola, IN — Jan 2021 – May 2021

Undergraduate Research Assistant

- Refined ANSYS computational-fluid-dynamics simulations to accurately match experimental results, while documenting my work for future researchers
- Worked with industry partners to develop and improve wind-turbine prototypes

Gamemode 4 Game Design — May 2017 – Current

Lead Developer and Team Administrator (Volunteer Basis)

- Managed and coordinated an international team of 30+ volunteer programmers and moderators to maintain, update, and generate third-party video game content, with an aggressive bi-annual release schedule

(607) 744-9912 || tmayer18@aol.com
Timothy Mayer

- Maintained several open-source repositories to facilitate community involvement and project lifetime

Accomplishments

Allen School of Engineering Distinguished Student (2022)

Amateur Radio Club (2019-2021)

- As Club President, doubled the number of active members, coaching 6 students through earning their government issued Amateur Radio License
- Worked with Alumni to secure over $30k in funding for new equipment and projects

Principal Chair Viola and Marching Band Section Leader (2021)

Tau Beta Pi Honor Society (2019)

NASA Space Apps Hackathon (2019)

- Worked with students across the country to develop a novel mechanical-memory solution for Venusian probes during a 48-hour challenge event

Project Lead the Way (2014-2018)

- Extensive experience in CAD modelling in Inventor and Solidworks, creating product prototypes optimized for 3D printing for other clubs and teachers

FIRST Robotics Team (2014-2018)

- Led Mechanical, CAD, and Electrical sub-teams to design a 120lb semifinalist competition robot from scratch under a strict 6-week timeline, 3 years running

Boy Scouts - Eagle Scout Rank (2016)