CARSON FARMER

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Digital Copy

LUcfarmer6.github.io/

EDUCATION

B.S. Mechanical Engineering Anticipated May 2021

Liberty University - Lynchburg, VA

- GPA: **4.0/4.0**
- Minor: **Mathematics**
- Relevant Coursework: **Computer-Aided Engineering, Mechatronics, Dynamic Systems Modeling**
- Research Focus: **Bio-inspired Systems and Soft Robotics**
- Leadership: **President** - Engineering Missions and Research Club Aug. 2018 - Present
- Awards: **First Place - Applied Research Poster** - Research Week 2020 [**Poster**] Apr. 2020

PUBLICATIONS

- Medina, H. and **Farmer, C.W.**, 2020. Improved Model for Conical Dielectric Elastomer Actuators With Fewer Electrical Connections. *Journal of Mechanisms and Robotics*, 12(3). [**Paper**]
- **Farmer, C.W.** and Medina, H., 2020. Dimensionless Parameter-Based Numerical Model for Double Conical Dielectric Elastomer Actuators. *Engineering Research Express*, Accepted [**Paper**]

PROFESSIONAL EXPERIENCE

Undergraduate Researcher - Lynchburg, VA Aug. 2018 - Present

Liberty University - Soft Robotics Research Group

- Implemented remote lab procedures for research group in response to Covid-19 mandates
- Expanded research group from a single student to a cumulative total of seven students
- Received a LU-CRS grant to design novel devices to aid people with Parkinson's Disease in computer control
- Received a LU-CRS grant to research novel uses for dielectric elastomer actuators in biomimetic motion
- Received a grant from DEPS to research vibration dampening in laser communication systems
- Developed gesture based controller for double-conical dielectric elastomers
- Experimentally characterized different electrode patterns for dielectric elastomer actuators

Entrepreneurial Engineering Intern - Remote May 2019 - Aug. 2019

The World Alliance for the Volunteer Economy: Entrepreneurial Ventures

- Created startup idea for using laser communications to provide internet to the Navajo Nation
- Worked with a mentor to develop a knowledge of electro-optical system design
- Developed strategic partnerships within the target community
- Identified SBIR funding opportunity with the project and formed a team to write the proposal

Mechanical Engineering Intern - Roanoke, VA May 2019 - Aug. 2019

Valcom

- Aided in the design of injection molded and sheet metal product enclosures
- Performed thermal, water, and stress tests on different product enclosure designs
- Wrote assembly instructions for new products
- Conducted market research for new product development

Engineering Intern - Port-au-Prince, Haiti & Roanoke, VA June 2018 - Aug. 2018

AECOM

- Implemented performance tracking to improve productivity of Haiti office
- Conducted site inspections with other engineers to assess safety and construction concerns
- Created document templates and workflow to improve reoccurring reporting
- Streamlined information flow between Haiti and Roanoke offices

PROJECTS

- Self-balancing inverted pendulum robot with a PID controller - ENGR 330 Fall 2019
- Gesture controlled double-conical dielectric elastomer actuator - Soft Robotics Research Group Fall 2019
- Wireless locking mechanism for a human-powered vehicle - ASME HPVC Competition Aug. 2017-Apr. 2018

SKILLS

Programming Languages: Matlab, Simulink, Julia, Python, C, C++, Mathematica, LaTeX
Software: SolidWorks, Ansys, AutoDesk Inventor, PSpice, LabView, MS Projects, Genesys