AVALYNN C. HELGRAVE (JUDGE)

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SUMMARY

My goal is employment in a job that allows me to use my skills as a programmer. I graduated from Montana State University with a Bachelor's degree in Electrical Engineering and I have significant experience with programming, documentation, report writing and project work.

EMPLOYMENT

2017-2019: Kunze Neuroengineering Lab, Bozeman, MT

Researcher

• Wrote programs in *Python, Matlab* and *ImageJ* to assist in my research
• Designed and performed experiments to test hypotheses
• Reported my findings in presentations at 6 symposiums every 4 months and at one peer-reviewed conference

Oct 2019-Aug 2020: Starbucks Coffee Company

Barista

• Worked as part of a team, serving coffee and customer connections.

Oct 2020-Current: C2S Technologies

Game Certification Tester

• Worked under several NDAs as part of a team testing games for Xbox/Microsoft.

RESEARCH EXPERIENCE

2017-2019 **Kunze Neuroengineering Lab**
Undergraduate Researcher

2018-2019 **Research Project: *Magnetic element optimization in COMSOL Multiphysics***
Description: Used parameterized computer modeling to optimize geometries of magnetic elements for mechanotransduction, increasing the force generated.
(*funded by IDeA Networks of Biomedical Research Excellence (INBRE) grant*)

2018 **Research Project: *Immunomagnetic cell sorting device design*** Description: A high-throughput cell sorting device was designed, with the potential for sorting based on biological properties.
(*funded by IDeA Networks of Biomedical Research Excellence (INBRE) grant*)

2017-2019 Research Project: *Neurite growth guidance & communication alteration*
Description: Used python and Matlab programming to investigate the communication of cortical neurites and the change once stimulus is applied.
(*funded by IDeA Networks of Biomedical Research Excellence (INBRE) grant)*

Responsibilities for all four projects listed above included:

- Formulated, drafted, and wrote a 5-page research proposal with references, outlining previous research done in the area, and making a case for why this research would build upon existing knowledge/data;
- Summarized and published findings via research posters and presented each poster to the public through a research symposium;

- Gained valuable communication skills, particularly around how to talk and write about complex research in accessible ways

EDUCATION

2015-2019 Montana State University

BA, Electrical Engineering, *Cum Laude*

Montana State University Honors College
Academic Distinction (May 2019)

2021-Current UW Coding Bootcamp

HTML, CSS, Javascript and other programming languages

RELEVANT COURSEWORK

C programming (entry level)

Python Programming (intermediate level)

Extensive Matlab programming experience
Signals & Systems Analysis
Electronics
Intro to Feedback Controls & Microfabrication

HONORS & AWARDS

2017-2019 Ronald E. McNair Postbaccalaureate Achievement Program

2015-2019 Dean's List

2018 Recipient of the Gilhousen Chair in Telecommunications Scholarship

2017-2018 Recipient of the Northwestern Energy Community Works Scholarship

TECHNOLOGY PATENTS & I.P.

2019 U. S. Provisional Patent No. 62/812447: "Multi Magnetic Topographic Cell Culture Platform for Neural Tissue Engineering", March 1, 2019

TECHNICAL TRAININGS & CERTIFICATIONS

- Proficiency with the AC/DC Module in COMSOL Multiphysics 5.3
- Microfabrication lithography training for microfluidic applications as well as transistor fabrication - Microfluidic Device Fabrication using PDMS
- Biosafety Cabinet Training
- Trained to grow cortical neurons both in petri dishes and MEAs. Assisted in developing the lab protocol for culturing on MEAs.

EXTRACURRICULARS

2015, 2018 Member of the SotW Marching Band, MSU

2016-2018 Member of the SotW Pep Band, MSU