Jack Andrews

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Current Focus: Entry-Level Engineer

Bioengineering Senior at Oakland University graduating in 2021 from the Honors College with a minor in computer science. Experience with medical devices and database management software through multiple internships. Experienced as an undergraduate researcher with electrochemistry, sensing, deep learning, and iOS app development. Led other undergraduate researchers successfully through projects and contributed to a team environment as an intern. Currently seeking a full-time position.

Education:

Oakland University | Rochester, MI
Bachelor of Science, Bioengineering — Graduation May 2021
Minor in Computer Science — G.P.A 3.89/4.00

Projects:

COVID-19 MS Classification

- Classified and increased the accuracy of COVID-19 mass spectrometry datasets using a recurrent neural network (RNN).

Medicine Dispenser

- Developed an automated medicine dispenser through development of an Android application and utilizing an Arduino Mega.

State of Enterprise Innovation Survey

- Drafted a survey alongside a consulting firm aimed to "pulse" the state of enterprise innovation in southeast Michigan.

Relevant Experience:

Biomedical Engineering Intern, **Beacon Health** — May 2020 – July 2020

- Assisted the department in preventative maintenance and service requests of medical equipment.
- Became familiar with hospital and off-site operations through servicing of medical equipment across the health system.
- Specialized in IV pump and ventilator preventative maintenance utilized by COVID-19 patients.

Clinical Engineering Intern, **Beaumont Health** — January 2020 – April 2020

- Verified an alternative preventative maintenance schedule through the development of a statistical model.
- Reported medical device adverse events to the FDA as a participant of MedSun meetings.
- Assessed potential new medical devices looking to be purchased by the health system through database searching.

Research Experience:

Signal Processing Research Assistant
Oakland University, Electrical and Computer Engineering Department — May 2019 – Present

- Invited to write a book chapter in the third volume of *Signal Processing in Medicine and Biology* published in Springer.
- Published in IEEE SPMB 2020 for biometric authentication through deep learning of chest motion data from a PIR sensor.
- Published in IEEE/ION PLANS 2020 for stationary presence detection using an ANN and a PIR sensor.

Mobile Health Research Assistant
University of Notre Dame, Computer Science and Engineering Department — May 2020 – August 2020

- Developed a watchOS application to be used by Parkinson's disease patients for fall and near fall detection.
- Analyzed motor skill progression data collected by Parkinson's disease patients using Python scripts.

Electrochemistry Research Assistant
Oakland University, Department of Chemistry — May 2018 – July 2018

- Evaluated the bulk properties and surface adsorption of various fuels by electrochemistry.
- Utilized CV and EIS to characterize the commercial gasoline samples for electrochemical properties.
- Received a travel award from the Honors College to speak at NCUR 2019.

Technical & Soft Skills:

Programming Languages**:** Python, MATLAB, Swift 5, Java, C, C#, C++, MySQL
Software Applications**:** Microsoft Office, Arduino IDE, Jupyter Notebook, Xcode 11, CATIA V5, phpMyAdmin
Leadership Roles: Presidential Scholar & Moceri Scholar – *Honors College*, Event Coordinator - *EMBS*, Vice President - *Club Soccer*
Service: Youth Soccer Training – *Sheriff PAL*, Animal Shelter and Environmental Conservancy Service Trips - *ASB*