

Jacob Scott Zelko

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Education

- Georgia Institute of Technology, Atlanta, GA, 2020
 - Biomedical Engineering B.S.
 - Ti:GER Ph.D./MBA Program
 - Create-X Undergraduate Entrepreneurship Program
- Corning Community College, Corning, NY, 2017
 - Engineering Science A.S.
 - Funded a \$500 scholarship for community college innovators
 - Founder of the Corning Innovators Club with ~10 members at time of graduation

Research

- Clifford Lab – Emory University, Department of Biomedical Informatics, 2017 – Present
- Positional Tracking and Environmental Sensing System for Patient Environments
 - Developed a ~\$40 system to detect environmental factors that affect patient recovery
 - Constructed a data pipeline to handle 100's of patient files with 1 second time resolution
 - Built system code base and unit tests in Python according to PEP-8 and Google Standards
 - Filed provisional patent on system with Gari Clifford, DPhil, and PhD-candidate Nicholas Shu

Work Experience

- Data Information Specialist - Emory University, Department of Biomedical Informatics, 2018 - Present
 - Co-led a team of 4 graduate students to develop an at-home patient surveillance system
 - Prototyped data pipeline using AWS S3 as storage and AWS Lambda for ML model processing
 - Established a Fedora VM for the 30+ person department to maintain the department website
- Project WaterFED – Project Manager, 2017
 - Top 10 finalist out of ~90 competitors in the NSF Community College Innovation Challenge
 - Project dedicated to providing communities the tools to recycle discarded plastics into water filters
 - Managed a team of 10 biology, graphic design, and engineering undergraduates
 - Presented project on Capitol Hill to dozens of political delegates and scientists

Projects

- MoyoMom – Ti:GER Lead and Technical Consultant
 - Led a MBA team in viability testing of a Guatemalan mHealth fetal monitoring system for Atlanta
 - Made a financial recommendation of \$500,000 to launch Atlanta pilot for the mHealth system
 - Oversaw team grant proposal to the US Health Resources and Services Administration
- Xtremor – Team Member
 - Contributed to the development of a Parkinson's Disease data acquisition system on a team of 8
 - Confirmed that our system could detect PD on/off states 100% of the time while taking Levodopa
 - Taught the team about version control, Android development, statistics, and research approaches
- humantraffickingdata.org – Research Associate
 - Collaborated with Prof. Vanessa Bouché to process 100's of human trafficking cases with pandas
 - Made proof-of-concept trafficking severity choropleth maps with Folium, matplotlib, and geojson

Skills

- Languages: Python, Java, MATLAB, bash, HTML
- Tools: Jupyter, Anaconda, AWS, Android Studio, VirtualBox, SolidWorks, G Suite, Git, Linux
- Hardware: Raspberry Pi, Arduino, myDAQ
- Languages: English, Spanish, Arabic

Honors and Awards

- 2017 Community College Innovation Challenge national finalist
- 2017 SUNY Chancellor's Award for Student Excellence recipient
- 2017 Corning Community College Engineering Science Program Award

Leadership

- Corning Center for Rehabilitation and Healthcare – Volunteer
 - Visited the psychiatric floor to encourage patients in physical rehabilitation
 - Transported and visited with patients regularly

Hobbies

- Using acoustic/electric guitar, piano, and MIDI keyboard, I create emotionally evocative soundscapes
- I find others amazing and love to chat with people over hot cocoa – hit me up if you are interested :)