Matthew Robert Findlay

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Education:

M.S. Computer Science & Engineering | Santa Clara University | California

- Master's degree to be conferred June 2019. Concentration in data science.

B.S. Bioengineering (minor in Computer Science & Engineering) | Santa Clara University | California

- Bachelor's degree received June 2017. Concentration in biostatistics.

Publications:

- **Findlay, M.R,** Freitas, D.N, Mobed-Miremadi, M.M, Wheeler, K.E "**Machine learning provides predictive analysis into silver nanoparticle protein corona formation from physicochemical properties**" *Journal of Environmental Science: Nano* **(Featured on journal cover Jan. 2018).**

Experience:

Full Stack Software Engineering Intern | Fujifilm Dimatix | June 2018-September 2018

- Built an IoT management system for sensors, range extenders, and gateways in the company semiconductor fabrication plant.
  - Included a web interface for engineers to configure, add, remove, restore, and view device settings.
  - Included a TCP interface to communicate real time sensor data for statistical process control.
- Learnt C#, Windows PowerShell, SQL Server, and Angular.js.

Software Engineering Intern | Karuna Labs | January 2018-June 2018

- Built machine learning models to predict when VR users were experiencing pain during VR rehabilitation.
- Built high performance algorithms to quantify the smoothness of VR movements in real time.
- Implemented machine learning models and algorithms in Unity 3D using C#.

Data Science Research Assistant | Santa Clara University Department of Chemistry & Biochemistry| August 2015-Present

- Currently building a cloud service for scientists to predict the outcome of engineered nanomaterial(ENM)-protein interactions.
- Built predictive models using deep learning and traditional machine learning in Python.
- Evaluated and quantified the competing roles of multiple variables in ENM-protein interactions.
- Built and published a tool, allowing other researchers to predict ENM-protein interactions: **github.com/mfindlay23/ENM-Protein-Predictor**.

Chemical Engineering Intern | Panasonic | April 2016-May 2016

- Analyzed chemical datasets and predicted chemical concentrations
- Researched and developed a user-friendly protocol for the detection of chemicals in soil using UV/Vis derivative spectroscopy.
- Helped automate the chemical detection protocol using Arduino-powered electronics.

Engineering Teaching Assistant | Santa Clara University | September 2017-Present

- Lecture students on engineering principles, organize and manage groups of students, and resolve conflicts between group members.
- Help students build Arduino powered robots by debugging code and electronic circuits.

Skills:

Proficiency programming in Python, C, C++, C#, & JavaScript. Experience with mySQL and SQLServer

- Tensorflow, Keras, Numpy, Pandas, and Scikit-Learn to create machine learning models.
- Traditional web development and web development using Angular.js.
- IoT devices, experience with Monnit Mine API & Modbus TCP.
- Data Visualization.
- Statistics and linear algebra.
- Familiarity with Linux, MacOS, and Windows

Conferences & Awards:

- Presented (see above publication) at the 2017 Annual Sustainable Nanotechnology Organization Conference in Orlando.
- Presented (see above publication) at the 253rd National Meeting of the American Chemical Society.
- 2017 Xilinx Grant for Undergraduate Research; 2017 SCU Undergraduate Engineering Research Grant; 2015 William P Roelandts Award to conduct research.