Jaron C. **Thompson**

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Education

Colorado State University *Fort Collins, Colorado*

B.S. Chemical Engineering, B.S. Biomedical Engineering *2013 - 2018, GPA: 3.75*

M.S. Chemical Engineering *2018 - PRESENT, GPA: 4.0*

Honors & Awards

2018 **Fellowship,** Walter Scott Jr. Graduate Fellowship *Colorado State University*

Research

Colorado State University / Los Alamos National Laboratory

Master's Degree Candidate / Graduate Student Intern *May 2018 - PRESENT*

- Developed machine learning models for analysis of microbial community profiles
- Applied neural network and random forest regression models for selection of important microbial taxa for driving changes in carbon sequestration
- Applied random forest regression models to predict the post mortem interval from sequenced microbiome data
- Proposed statistical techniques for improving experimental design of pharmacokinetic modeling studies using Fisher information

Experience

Los Alamos National Laboratory *Los Alamos, New Mexico*

Graduate Student Intern (Intelligence and Systems Analysis Division) *May 2018 - PRESENT*

- Developed machine learning models to predict nuclear reactor properties from simulated spent fuel profiles
- Created a GUI (graphical user interface) in MATLAB for application of trained machine learning models to predict time since reaction and initial fuel composition of nuclear reactors

Applied Medical *Rancho Santa Margarita, California*

R&D Intern *Summer 2016, 2017*

- Incorporated techniques such as CAD modeling, Arduino microcontroller programming, and 3D printing to develop and design medical devices
- Developed tissue culture for experiments and performed assays to assess cell viability and proliferation
- Wrote Standard Operating Procedure (SOP) documents for cell lab safety and general maintenance
- Performed statistical analysis to interpret and present experimental results
- Developed and presented comprehensive technical project reports on a biweekly basis

Engineering Projects

Biomedical Engineering Senior Design Capstone Project

Fourier Ptychographic Microscopy *2017, 2018*

- Constructed microscope capable of performing FPM (fourier pytchographic microscopy) to create high resolution images of tissue samples
- Designed image processing algorithms such as fourier pytchography and quantitative phase imaging in Python

Skills

Programming Python, MATLAB, JAVA, LaTeX, SQL