

# 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

- Master's Degree Candidate under Dr. Brian Munsky with a focus on 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
- Developed 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
- Integrated MATLAB GUI with SQL database to access and store reactor data

### 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

- Designed image processing algorithms to perform fourier pythography and quantitative phase imaging in Python and MATLAB
- Constructed microscope capable of performing fourier pythographic microscopy to acquire high resolution images of tissue samples with complete phase information

## Skills

**Programming** Python, MATLAB, JAVA, LaTeX, SQL

Cluster computing, parallel processing, GPU accelerated machine learning, Git/GitHub workflow

**Modeling** Mathematical modeling, Stochastic Simulation, Parameter estimation, Process control