

# Jacky Lao

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📄 <https://github.com/selwyni>  
U.S. Citizen

## Education

2015

2019

**Carnegie Mellon University**, *B.S. Materials Science & Engineering, Computer Science Minor*,  
Pittsburgh, PA.  
QPA - 3.83

## Papers and Projects

2016

**Research Assistant**, CARNEGIE MELLON UNIVERSITY, Pittsburgh, PA.

- Sudipto Mandal, Jacky Lao, Sean Donegan, Anthony D. Rollett, "Generation of representative three-dimensional microstructure for two-phase titanium alloys." (In preparation)
- Percolation Theory - Application of Data Mining and Data Science techniques to microstructural data
- Investigation of multiple length scales of Two-Phase Titanium alloy microstructure with EBSD, SEM, DIC, Optical Microscopy.

## Experience

2016

**Research Assistant**, CARNEGIE MELLON UNIVERSITY, Pittsburgh, PA.

- Assisted Sudipto Mandal and the Rollett Group in testing DREAM3D and understanding differences in additive manufacturing methods of Ti-6Al-4V
- Added functionality to DREAM3D, AFRL's open source microstructure simulator
- Wrote R scripts and m-files to analyze the accuracy of DREAM3D's generation algorithms
- Mounted and polished Ti-6Al-4V samples for SEM, EBSD
- Applied data analysis and visualization techniques to HDF5 outputs from evpFFT of 3-dimensional microstructures

2015

**Production Manager**, CARNEGIE MELLON UNIVERSITY, Pittsburgh, PA.

- Streamlined rehearsal room reservation process and shortened average waiting times by 30 minutes
- Scheduled major checkpoints and ensured execution of milestones
- Facilitated conversations between board of directors and production board
- Developed contingencies for problems that would negatively affect production

2015

**Set Designer**, CARNEGIE MELLON UNIVERSITY, Pittsburgh, PA.

- Designed the set for an entirely student written and produced production.
- Maintained open lines of communications between directors and implementers to achieve the artistic vision.

2015

**Stage Manager**, CARNEGIE MELLON UNIVERSITY, Pittsburgh, PA.

- Maintained communication between all production members
- Organized rehearsals for thirty people

2013

2015

**Technical Director**, NORTHWOOD HIGH SCHOOL, Irvine, CA.

- Decreased lumber costs by 30% by decreasing waste
- Coordinated eight technical departments in meeting checkpoints
- Analyzed and determined cost-efficiency and quality of set pieces

## Technical Skills

Proficient: MATLAB, Python, R, LaTeX

Familiar: SQL, Git, Linux, Mathematica, ParaView

Instrumental: Optical Microscopy, X-Ray Diffraction, Scanning Electron Microscopy

## Coursework

Current: Probability Theory, Functional Programming, Materials Characterization, Transport, Defects, Phase Relations

Completed: Imperative Programming, Differential Equations, Engineering Statistics and Quality Control, Intro to Machine Learning (Coursera)