



# Jackson Waschura

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## EDUCATION

### California Polytechnic State University, San Luis Obispo

Expected Graduation June 2021, Cumulative GPA 3.97

Bachelor of Science in **Computer Science** and minor in **Data Science**

Relevant Coursework: Algorithms, Machine Learning, Artificial Intelligence, Advanced Topics in Data Mining

## PROJECTS AND RESEARCH

### Cloth Simulation for Reinforcement Learning

Aug 2019 - Dec 2019

- Assisted research of cloth manipulation at the KTH Division of Robotics, Perception, and Learning
- Augmented Bullet Physics's large C++ codebase, adding new python bindings to expose fine-grain control of simulated cloth to the lab's reinforcement learning environment

### Dataset Augmentation via Intelligent Interpolation

June 2018 - May 2019

- Investigated the potential of Adversarially Constrained Autoencoder Interpolation (ACAI) for augmenting datasets with smoothly-interpolated synthetic samples.
- Experimented with interpolating point-cloud representations of objects using autoencoders and GANs.

### Computer Vision as an Assistive Technology

Sept 2017 - June 2018

- Conducted undergraduate research to extend color-based object detection algorithms to include depth data (RGBD) to assist the visually impaired in finding lost objects
- Research involved online semantic segmentation running on a wearable prototype

## WORK EXPERIENCE

### Percipient.ai, Returning Science Intern

June 2019 - Aug 2019

- Researched self-supervised online learning techniques for face recognition utilizing deep metric learning
- Implemented and tested deep neural network architectures and loss functions with Tensorflow 2.0

### Percipient.ai, Science Intern

June 2018 - Aug 2018

- Worked alongside a team of scientists developing methods of zero- and few-shot object detection using an SSD network implemented in MXnet
- Developed a tool for clustering facial identities, doubling the efficiency of manual annotators

### BitWise Laboratories Inc., Software Intern

June 2017 - Aug 2017

- Created an in-house testing and calibration application using Labview CVI
- Interfaced with an oscilloscope to log electronic test data and automate quality control

## LEADERSHIP EXPERIENCE

### SLO Hacks, Co-Director of Hacker Experience

Oct 2018 - March 2019

- Led a subteam of 9 students in organizing the day-of logistics for SLO Hacks, a 36-hour 500-person hackathon hosted annually at Cal Poly SLO.

### Undergraduate Research Group, Lead

Sept 2017 - June 2019

- Founded an undergraduate research group exploring machine learning and computer vision
- Facilitated meetings, coordinated students, and managed deadlines for two year-long projects

### Gunn Robotics Team, Team Manager

May 2016 - June 2017

- Managed team of 55 students in the 2017 FIRST Robotics Competition
- Initiated and led the Animation subgroup, training 6 students in 3D modeling, texturing, and animation
- Honored as a top 10 entry at the 2017 FIRST Animation Competition out of 103 competing teams

## SKILLS AND KNOWLEDGE

Data processing experience with Tensorflow, Keras, MXnet, Pandas, NumPy, and Jupyter Notebooks.

Programming experience with Python, Java, C, and C++

Proficient in modeling and rendering with Blender and Autodesk Maya