# William Lee

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#### **EDUCATION**

Palo Alto High School

2016 (3.97/4.00)

St. Anne's College, Oxford (Maths, Computer Science)

2018 - Present

Swarthmore College (Maths, Computer Science)

 $2020 \ expected \ (3.9+)$ 

#### WORK EXPERIENCE

### Search Relevance, Salesforce

Summer 2018

- Redesigned the search metrics pipeline for Salesforce Search Cloud using Splunk and Hadoop.
- Data analysis on terabyte-scale logs to accurately measure Salesforce Search's performance.

## Laboratory for Advanced Sensing, NASA Ames

Summer 2017

- Designed and implemented a computer vision alignment pipeline to fully georectify 4k UAV footage onto satellite imagery.
- Implemented a sliding window CNN using Keras to classify coral reef morphology (baseline model).

## Intelligent Robotics Group, NASA Ames

Summer 2016

- Developed a entropy-based adaptive gaussian blur module for NASA's stereogammetry suite.
- Full stack web development on NASA's GeoCam space project and xGDS mission planning software.

#### **PROJECTS**

#### Synthetic Datasets Using Deep Generative Models

Explored training neural networks on Synthetic Datasets created by Deep Generative Models (GANs, Deep Boltzmann Machines) for my final project in machine learning, with two group members. Created synthetic datasets for MNIST and CIFAR-10 datasets and analyzed efficacy of models trained on generated datasets.

## Capturing Population Events Using HMMs

Analyzed genomic sequence data from different human populations in the 1000 Genomes Project. Combined multiple projects from a semester-long Bioinformatics class to create an end-to-end genomic pipeline to convert raw sequence data to population-size estimates using TMRCA. Successfully captured the out-of-Africa bottleneck; concluded that smaller-scale population events require more data.

# Weight Uncertainty in Neural Networks (in progress)

Working on replicating and extending the results found in Weight Uncertainty in Neural Networks (Blundell et al., 2015).

#### COURSEWORK

University of Oxford Advanced Machine Learning, Probability & Computing,

Probability, Artificial Intelligence

Swarthmore College Machine Learning, Computer Vision, Bioinformatics

## **SKILLS**

Python, Pytorch/TensorFlow, OpenCV, Sklearn, Java/C++/C, Hadoop/Splunk, Photography, Math