# Will Wright

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## Profile

Programmer and mathematician with 4 years experience in algorithms and machine learning. Developed algorithms for large, complex problems and optimized methods to boost performance (see projects below). Enjoys self-learning and deep dives to understand high- and low-level details. Seeking a role within a dynamic team environment to further develop skills and deliver value-driven results.

## Highlights

- Machine / Deep learning (TensorFlow)
- Autonomous systems
- Algorithm design
- Data science tools / environments
- Large-scale numerical methods
- Sparse linear algebra

## Selected Projects

### Image Segmentation

- Developed faster algorithm, decreased runtime 80-95% for segmenting large images
- Designed sparse method for adjacency matrix **superior to scikit method**
  - Requires $O(pixel)$ low-level operations vs $O(pixels^2)$ for scikit-image/rag.py

### Signal / Image Processing

- Created adaptive hyperparameter method based on grid search strategy
- Decreased low-level operations and runtime by 50-90%
- Showed our algorithm is better at denoising than other algorithms (wflow, HIO)

### LASSO Regularization

- Proved equivalence of two recent methods in qualifying exam proposal
- Designed algorithm which **scales better than built-in MATLAB software**
  - New algorithm scales appx. linearly with problem size

## Education

PhD Mathematics - University of California, Davis 2019
- Dissertation: An Improved Descent Method for Noisy Phase Retrieval
- SIAM Student Chapter President 2015-2016, Member 2013-2019

MS Applied Math - CSU, East Bay 2013
- 2012 - Tracewell Scholarship
- 2011 - Sabharwal Scholarship

MA Teaching - Concordia University, Portland OR 2009

BS Political Science and Philosophy - Penn State 2006

## Professional Experience

Researcher and Software Engineer - Apple (Internship) 2016
- Modeled various optimization methods to inform the direction of an autonomous systems project

Assistant Instructor - CSU, East Bay 2011 - 2013

Middle School Teacher - Academy of Alameda, Alameda CA 2010 - 2011

High School Teacher - Delta Academy, Antioch CA 2009 - 2010

## Technical Skills

- C++, Python, MATLAB, Git
- TensorFlow, Keras, scikit-learn
- Building ML & DL models
- Familiar with ResNet-50, BERT

## Interests

Running, brewing beer, hiking, board games, guitar, audiobooks and podcasts