Will Wright

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EDUCATION

PhD Mathematics - University of California, Davis

August 2019

Dissertation: A Rapid Eigenvalue Method for Noisy Phase Retrieval Emphases:

- Large-scale numerical methods
- Machine learning applications
- Nonlinear optimization

MS Applied Math - California State University, East Bay

June 2013

2012 - Tracewell Scholarship2011 - Sabharwal Scholarship

BS Political Science & Philosophy - Penn State

Dec 2006

Internship

Researcher & Software Engineer - Apple

June-Dec 2016

- o prototyped optimization methods
- contributed performance-critical C++ code to team repository

RESEARCH PROJECTS

Image Segmentation

- o developed a faster algorithm than the original algorithm
- o developed a *new method* for computing adjacency matrix, requiring $\mathcal{O}(\text{pixels})$ ops vs $\mathcal{O}(\text{pixels}^2)$ in *scikit-image*





Phase Retrieval Denoising

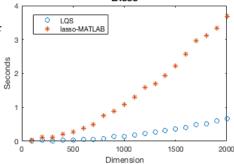
- o developed efficient numerical methods to optimize a recent phase retrieval algorithm
- decreased computational costs and runtime by 50-90%
- o demonstrated this algorithm is more accurate than a highly-cited competitor algorithm

LASSO & Quadratic Programming

- Qualifying exam proposal proved the equivalence of two recent methods (smoothing and Lagrangian)
- demonstrated this method (LQS, right) scales better than built-in MATLAB software

SOFTWARE SKILLS

Experienced MATLAB, Python **Intermediate** C++, Git, Julia



LASSO

Interests

Running, brewing beer, boardgames, guitar, audiobooks and podcasts (e.g., the Expanse, Stormlight Archive, Freakonomics)