

## ANDREW PORT

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PhD Student in **Computer Engineering**, UC Santa Cruz  
M.S in **Applied Mathematics**, 2012, UC Davis  
B.S in **Mathematics**, 2007, Worcester Polytechnic Institute  
Northfield Mount Hermon High School, 2003

## PROFILE

Grad student working in UCSC Computer Vision Lab on deep learning models for generating natural language descriptions of images. Primarily interested in opportunities that will provide practice designing and implementing deep learning models.

## RECENT EMPLOYMENT

(Current) **Graduate Student in Computer Engineering: University of California, Santa Cruz**

Working in the computer vision lab on deep learning models for generating natural language descriptions of images with the purpose of aiding people with visual impairments.

(2013-2017) **Adjunct Professor of Mathematics and Statistics: Sacramento City College**

Taught various mathematics and statistics courses.

## TECHNICAL SKILLS (THINGS I'VE USED IN PRACTICE, OUTSIDE SCHOOL)

**Deep Learning:** Convolutional networks (CNNs)

**Classical Machine Learning and Statistical Methods:** regression models, clustering methods, dimensionality reduction, regularization, singular value decomposition (SVD), inferential statistics, hypothesis testing, statistical confidence

**Time Series Analysis:** time series analysis, multiple continuous time series alignment, dynamic time warping

**Image Analysis:** gradient-based edge detection, contour finding, image segmentation, thresholding

**Data Analysis, Signals Analysis:** Fourier analysis, wavelet transforms, topological sorting, working w/ noisy data

**Programming Languages:** MATLAB, Python -- NumPy, SciPy, matplotlib, SageMath, OpenCV, TensorFlow

**My Usual Python Toolset:** Sublime Text, IPython, ipdb, Git, PyCharm, cProfile, Jupyter Notebook

**Virtualization and Cloud Computing:** VMWare, VirtualBox, Docker, Amazon AWS

**OS, Office, and LaTeX:** Linux, Mac OS X, Unix, Windows, Microsoft Excel, Microsoft PowerPoint, LaTeX

**Select Coursework:** Differential Geometry, Fourier Analysis, Discrete Optimization, Analysis, Functional Analysis, Numerical Linear Algebra, Linear Algebra, Tensor Algebra, Tensor Calculus, topology, Graph Theory, Probability, Statistics

## NOTEWORTHY INDEPENDENT PROJECTS

**svgpathtools** (2016): Sole creator of the somewhat popular (over 23,000 PyPI downloads counted by BigQuery) and actively contributed to library of object-oriented tools for manipulating SVG Path objects and Bezier curves in Python -- <https://pypi.python.org/pypi/svgpathtools>

## ACADEMIC HONORS AND AWARDS

**NSF VIGRE Summer Graduate Fellowship** (2009): Awarded to top applicants from the UC Davis Mathematics Department – awarded for research modelling fibroblast cell movement

**WPI Provost Major Qualifying Project award for Mathematical Sciences** (2007): Awarded each year to best entry -- awarded for research on Geometric Invariant Theory and

## HOBBIES

Songwriter, guitarist, and vocalist – mostly bluesy rock, pop, and bluegrass