

## ANDREW PORT

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

## PROFILE

Computer vision engineer, math lover. 11+ years experience w/ Python. 5+ years experience w/ TensorFlow, PyTorch, and other computer vision tools. Creator of the `svgpathtools` Python package and other open-source projects.

## RECENT EMPLOYMENT

### (2022-Current) **Engineer @ Motional**

- Maintained library used to evaluate production model performance.
- Created/owned an ML-based anomaly detector for detecting distributional changes in non-deterministic model outputs and metrics.
- Developed intelligent assistant prototype.

### (2019 Summer and Fall) **Computer Vision Research Intern @ FXPAL**

- Invented a novel method of visual-to-auditory sensory substitution (i.e. communicating visual information aurally) using a GAN to encode visual information into audio. Demonstrated that humans could perceive facial features (extracted by a facial recognition model) using this technique.
- Authored two related patents, one in US (granted) and one in Japan (pending), and two related papers.

### (2018 Summer) **Senior Technology & Software Intern @ Rare.org**

- Designed and developed computer vision technology to help fishermen in Belize and Honduras identify the origin of fish that had already been brought to land. The goal being to enable the protection of overfished areas.
- Built a custom background for fishermen to take photos against. This enabled color correction and image rectification.
- Built a pipeline to color correct, rectify, segment, and classify the images taken by the fishermen.

### (2013-2017) **Adj. Professor of Mathematics and Statistics @ Sacramento City College**

- Taught mathematics and statistics courses at both high school and college levels.
- Taught as an Extended Opportunity Programs & Services (EOPS) professor for one year.

## NOTEWORTHY INDEPENDENT PROJECTS

**svgpathtools** (2016): Creator of the somewhat popular (e.g. see [pystats](#)) actively contributed-to library of object-oriented tools for manipulating SVG Path objects and Bezier curves in Python

## SELECT PUBLICATIONS AND PATENTS

- C. Kim\*, A. Port\*, M. Patel, [Face-to-Music](#), CVPR Sight and Sound (2021)
- Port, C. Kim, M. Patel, *Deep Sensory Substitution*, submitted to WACV (2021)
- Andrew Allan Port, Doga Buse Cavdir, Chelhwon Kim, Mitesh Kumar Patel, Donald Kimber, Qiong Liu. *Transmodal Translation of Feature Vectors to Audio for Assistive Devices* [JP Patent No. JP2021056499A](#) (published, April 2021); [US Patent No. US11069259B2](#) (granted, July 2021)