ANDREW PORT

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port.codes

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

Machine Learning and **Computer Vision Engineer.** Experienced with creating, training, improving, and evaluating **Deep learning** models and pipelines, for both research and production. Exceptional problem solver and Python coder with a deep background in both deep computer vision and **mathematics**.

RECENT EMPLOYMENT

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

- Worked as MLE for ML Planner and ML Environment teams building and improving autonomous vehicle training and evaluation pipelines, datasets, and models.
- Upgraded Motional's ML code base to support PyTorch v2
- Developed ML models used in CI testing of an autonomous vehicle stack.
- Worked as part of team to build and maintain infrastructure, datasets, and metrics used in CI to cost effectively simulate and evaluate vehicle performance over hundreds of scenarios and hours of real world sensor data.
- Cut AWS costs significantly
- Developed intelligent assistant prototype using OpenAI and open source speech recognition and synthesis models.

(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**

- Extended Opportunity Programs & Services (EOPS) Professor

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)