Evan Kriminger
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Skills

10 years of experience in software engineering and algorithm design for deep learning, signal proessing, and estimation. I specialize in computer vision and tracking problems.

Languages: **C++**, **Python** (github.com/ekrim)
Libraries: OpenCV, TensorFlow, PyTorch

Experience

Motion Scientist November 2018 - Present
Apple Inc., Cupertino, CA

- Developed algorithms for IMU processing and motion tracking on the CoreMotion team.
- Delivered production code running on millions of iPhones and Apple watches.
- Built infrastructure to run simulations and analysis on hundreds of hours of user data.

Senior Machine Learning Engineer October 2017 - November 2018
ZestFinance, Los Angeles, CA

- Chief architect of explainability library used internally and delivered to clients. Built company's infrastructure for training and explaining deep neural networks in TensorFlow.
- Led research and prototype development of normalizing flow models and variational autoencoders for model fairness products.

Machine Learning Engineer February 2016 - August 2017
Leap Motion, San Francisco, CA

- Conducted computer vision and machine learning research for real-time hand tracking, hand-object interaction, and visual odometry.
- Built systems for cloud-based training and evaluation of TensorFlow and Theano models, along with data pipelines for large datasets (50GB+).

Research Assistant Fall 2010 - December 2015
University of Florida, *Computational NeuroEngineering Laboratory*
Advisor: Dr. José C. Príncipe

- First or co-author of 13 peer-reviewed publications on topics such as EEG signal processing, reinforcement learning, metric learning, imbalanced classification, and active learning.
- Led HP Labs-funded project for oil pipelines anomaly detection and an Office of Naval Research-funded project for sonar object detection.

Education

Ph.D Electrical and Computer Engineering Fall 2015
University of Florida Gainesville, FL

B.S. Engineering Science, *summa cum laude* Spring 2009
University of Miami, GPA: 3.92 Coral Gables, FL

Selected First Author Publications (see **ekrim.github.io** for full list and code)

- *An Effective and Robust Method for Active Constrained Clustering*
  University of Florida dissertation
- "Online active learning for automatic target recognition"
  IEEE Journal of Oceanic Engineering, Aug. 2014
- "Metric learning for invariant feature generation in reinforcement learning"
  1^{st} *Multidisc. Conf. on Reinforcement Learning and Decision Making*, Oct. 2013
- "Nearest neighbor distributions for imbalanced classification"
  IEEE Int. Joint Conf. on Neural Networks, June 2012
- "Markov chain model of HomePlug CSMA MAC for determining optimal fixed contention window size"
  IEEE Int. Sym. on Power Line Communications and its Applications, Apr. 2011

Patents

- U.S. Patent 20,130,069,786 "Detecting regime change in streaming data"
- U.S. Patent 20,130,085,715 "Anomaly detection in streaming data"
- U.S. Patent 20,140,032,450 "Classifying unclassified samples"