Teddy Koker

CONTACT

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https://teddykoker.com
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EDUCATION

Worcester Polytechnic Institute, Worcester, MA

B.S., Computer Science **Sep 2016 – Dec 2019**

3.69/4.0 GPA. Senior thesis focused on applications of machine learning to social network graphs to predict future connections. Completed coursework in statistics, probability theory, machine learning, and computer architecture.

PROFESSIONAL EXPERIENCE

Grid AI, New York City, NY

AI Research Engineer **Aug 2020 –**

Core member of popular deep learning framework *PyTorch Lightning*. Created a package of metrics capable of efficient computation across multiple GPUs and server compute nodes. Continuing research within self-supervised learning of image representations.

Harvard Medical School, Boston, MA

Machine Learning Research Associate **Dec 2019 – Aug 2020**

Conducted research within the Image and Data Analysis Core. Created deep learning model to detect manipulation of microscopy images. Proposed a novel approach to biomedical image retrieval.

Analog Devices Incorporated, Boston, MA

Research Engineering Intern **May 2019 – Aug 2019**

Researched and implemented a state-of-the-art inertial navigation system for use in autonomous transportation. Assisted in other projects within the Autonomous Transportation group involving radar and lidar algorithms.

Part-Time Software Engineering Intern **Sep 2017 – Apr 2018**

Created software to analyze products' data sheets and highlight potential security risks. Results were then presented at an internal conference.

Software Engineering Intern **Jun 2017 – Aug 2017**

Built an efficient data communication protocol and software for internet-connected agricultural sensors that is currently deployed in farms across the world.

PUBLICATIONS

T.E. Koker, F. Mireshghallah, T. Titcombe, and G. Kaissis. 2021. U-Noise: Learnable Noise Masks for Interpretable Image Segmentation. *Under Review*.

T.E. Koker*, S.S. Chintapalli*, S. Wang, B.A. Talbot, D. Wainstock, M. Cicconet, M.C. Walsh. 2020. On Identification and Retrieval of Near-Duplicate Biological Images: a New Dataset and Protocol. *International Conference on Pattern Recognition*.

T.E. Koker and D. Koutmos. 2020. Cryptocurrency Trading Using Machine Learning. *Journal of Risk and Financial Management*. doi:10.3390/jrfm13080178.

PROJECTS

Personal Writing, https://teddykoker.com

Performers: The Kernel Trick, Fourier Features, and Attention, 5,000+ page views	**Dec 2020**
Deep Learning for Guitar Effect Emulation, 15,000+ page views	**May 2020**
NLP from Scratch: Annotated Attention, 1,000+ page views	**Feb 2020**
Beating the Odds: Machine Learning for Horse Racing, 13,000+ page views	**Dec 2019**
Trading with Reinforcement Learning, 6,000+ page views	**Jun 2019**

PROGRAMMING EXPERIENCE

Languages: Python, C, C++, Rust, HTML, CSS, Javascript, Java, LaTeX
Server Technology: Distributed Compute, Docker, PostgreSQL, AWS, Jupyter Notebook, ROS
Libraries: PyTorch, Tensorflow, Scikit-learn, Flask, D3