

# Teddy Koker

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## CONTACT

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<https://teddykoker.com>  
<https://github.com/teddykoker>  
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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

**Harvard Medical School**, Boston, MA

*Machine Learning Research Associate*

**Dec 2019 –**

Conducting 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.

**OpenMined**, <https://openmined.org/>

*Research Engineer*

**Mar 2020 –**

Working within a small group researching privacy-preserving and interpretable image segmentation, with a focus on applications in healthcare.

**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**

Wrote software for internet-connected agricultural sensors that is currently deployed in farms across the world.

## PUBLICATIONS

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

## PROJECTS

**Personal Writing**, <https://teddykoker.com>

*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*, 10,000+ page views

**Dec 2019**

*Trading with Reinforcement Learning*, 6,000+ page views

**Jun 2019**

*Momentum Strategy from "Stocks on the Move"*, 12,000+ page views

**May 2019**

*Simulating Historical Performance of Leveraged ETFs*, 2,000+ page views

**Apr 2019**

## PROGRAMMING EXPERIENCE

*Languages:* Python, C, C++, Rust, HTML, CSS, Javascript, Java, L<sup>A</sup>T<sub>E</sub>X  
*Server Technology:* Docker, PostgreSQL, AWS, Jupyter Notebook, ROS  
*Libraries:* PyTorch, Tensorflow, Scikit-learn, Flask, D3