

# PETER OTT

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## About Me

As an established machine learning engineer and software developer, my aim is to apply artificial intelligence at the cutting edge and perpetually increase my expertise in the disciplines of machine learning and computer science and join the ranks of those leading the academic machine learning community.

## Education

### Bachelor of Science in Computer Science

George Mason University, Honors College - 2017

## Skills

### Machine Learning

Deep Learning  
Reinforcement Learning  
Neural Network Design  
Linear Algebra, Statistics

### Frameworks

PyTorch  
TensorFlow  
Keras  
SciKit Learn

### Languages

Python  
Java  
JavaScript

### Environments

Jupyter Notebook  
Docker  
PyCharm

## Experience

### Machine Learning Engineer CACI

October 2019 - Present

Next Century acquired by CACI.

### - Machine Learning Engineer Next Century

February 2019 - October 2019

Machine Learning research that lead to increased accuracy and correlation of image manipulation detection and DeepFake detection through Machine Learning Data Fusion on DARPA Media Forensics Program

Model development and research in PyTorch and TensorFlow.

### - Associate Software Engineer Innovative Defense Technologies

July 2013 - January 2019

Architected a cost-effective system for stress testing and benchmarking scalable distributed micro services and streaming platforms.

Docker, Apache Bench, JMeter, other stress testing tools

Ongoing customer site integration and product support

Designed and constructed a comprehensive Continuous Integration (CI) Pipeline and development suite

Jenkins, GitLab, Nexus, Jira, HipChat, Apache email

Machine Learning powered intelligent storage, sorting, and deletion of image files based on relevancy and task importance in a space constrained system.

Python, SQLite

Technical writer on SBIR proposal team

Discovered system vulnerabilities in a highly reduced timeframe via Machine Learning powered genetic algorithm fuzz testing.

Python, genetic algorithm

Improved optical character recognition (OCR) on low resolution imagery

Java, Tesseract (OCR tool), statistical modeling

## Personal Projects and Hobbies

### Kaggle Contributor

[kaggle.com/ottpeterr](https://kaggle.com/ottpeterr)

Over 99% accuracy on hand written digit classification (MNIST Dataset)

2D conv. net, Keras

Accurate detection of fraudulent credit card purchases with data oversampling

Random forest, neural net, Keras

Taxi Fare prediction for New York taxi rides

Dataset of 50,000,000 rows with only 12GB of RAM

Pneumonia detection through on x-ray images with generated imagery

2D conv. net, image generation for training

### - Raspberry Pi

Current Project: TinyRL, small RL projects that can be run on a Raspberry Pi

TensorFlow

Home Automation via large Home Assistant setup

Light Control, Security System, Device Tracking, Home Server, Cloud IDE

Home surveillance camera with chat bot integration for notifications

Python, Telegram (chat platform)

### - Home Automation

Various Raspberry Pi's running home surveillance cameras, network wide ad-blocking, smart light control, presence detection, family location sharing and more!

### MX-5 Miata

It's my daily driver car but also my weekend project car. Ask me about it!

