Ellery Buntel

Machine Learning Engineer

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Current computer science PhD student at Tufts University specializing in AI and machine learning. Past work has involved reinforcement learning, Bayesian deep learning, autoencoders, cloud computing, and other emerging technologies. Looking to leverage my research experience and love for the cutting-edge to deliver innovative solutions as a machine learning engineer in a commercial setting.

- Core Skills: Software development, research, deep learning, reinforcement learning, and machine learning.
- Computer scientist with 7 years of experience in Python, 3 years of experience in machine learning, and 4 years of research experience.

Key Skills

- Machine Learning, Deep Learning, and Reinforcement Learning
- Cloud Computing (including AWS)
- Python, C, C++, Java, Scala, Kotlin
- Tensorflow, Pandas, Numpy, Pytorch, tf-agents
- Git, Linux
- Serverless Computing, Microservices, Docker
- Languages: English (Native), Japanese (Proficient)

Professional Experience - Software Engineering

Cloud Engineering Intern   *Bose Corporation | June 2019 - August 2019*

Architected and implemented a DevOps solution on AWS for on-demand execution of computationally intensive MATLAB functions as a Cloud Engineering Intern in the Consumer Electronics Applied Research Division. The technologies used for this project include AWS Lambda, EC2, API Gateway, DynamoDB, and Unix scripts. I also created microservices for automated email delivery using AWS Lambda and API Gateway.

Software Engineering Intern   *HummingHEADS | January 2019 - March 2019*

Wrote device-level security drivers for Windows devices at HummingHEADS, a leading Japanese cybersecurity firm. Work was mainly in C and C++. Additional work in Windows app and UI creation.
All work was conducted in Japanese.

Professional Experience - Applied Research

Research Intern   *Worcester Polytechnic Institute HCI Lab | May 2020 - August 2020*

Developed a timeseries data exploration web app that allows users to efficiently find similarities in timeseries datasets. It was written in Python and Javascript using React, Spark, Django, and a machine learning library developed in the HCI lab that I led development for. This application is currently being used to explore brain data.

Professional Experience - Mentoring and Teaching

Teaching Assistant   *Tufts University | August 2021 - Present*

Served as a teaching assistant at Tufts University for a series of CS courses: Human Computer Interaction, Probabilistic Robotics, Artificial Intelligence, and Reinforcement Learning. My duties included grading, curriculum development, and student mentoring.

Education

Partial PhD in Computer Science

Tufts University at Medford, MA, USA August 2021 - Present

Research work including:
- A project investigating the use of fNIRS neural data as a physiological input to a deep reinforcement learning agent. Used Python and tf-agents.
- A project using bayesian deep learning networks to improve the performance of an image classification CNN. Used Python and Pytorch.

Additional coursework in various types of machine learning including: Bayesian deep learning, reinforcement learning, image recognition networks, and autoencoders.

Bachelors in Computer Science

Worcester Polytechnic Institute at Worcester, MA, USA August 2019 - August 2021

Completed the last two years of undergrad at WPI studying computer science.
- Coursework including operating systems, brain computer interaction, and statistics.
- Additional research work on brain computer interaction including cloud computing with AWS, building machine learning applications in Python, analyzing and parsing fNIRS brain data, and building a web application to visualize and explore timeseries data.