

Brandon Fujii

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EDUCATION

Springboard	Remote
6-month intensive course in data science, machine learning, Python, and SQL	Mar. 2021 – Sep. 2021
Northwestern University	Evanston, IL
MS in Computer Science	2018 – 2019
Northwestern University	Evanston, IL
BA in Computer Science	2014 – 2018

TECHNICAL SKILLS

Languages: Python, Go, Java, Julia, SQL
Cloud: EC2, DynamoDB, CloudFormation, SQS, SNS, Apache Spark, Hadoop, Hive, Impala, Paperspace, Databricks
Data Science: data wrangling, feature engineering, exploratory data analysis, data modeling, hyperparameter optimization, data storytelling, supervised learning, unsupervised learning, reinforcement learning, hypothesis testing
Libraries: Pandas, NumPy, Scikit Learn, TensorFlow, Optuna, Matplotlib

PROJECTS

Predicting Diabetic Early Readmission ↗ <i>Python, Scikit Learn, Optuna</i>	Apr. 2021 – May 2021
<ul style="list-style-type: none">Given the costliness of unplanned early hospital readmission, sought to develop an accurate method of identifying diabetic patients at risk of readmitting earlyConducted exploratory data analysis, feature engineering, model selection, and hyperparameter optimization to train a random forest model to classify a patient as at risk for early readmission, based on hospital dataIdentified 62% of non-early readmission patients and 61% of early readmission patients, about a 20% improvement from traditional assessment tools	
Autonomous Car Racing Agent ↗ <i>Python, TensorFlow, OpenAI Gym</i>	Jun. 2021 – Aug. 2021
<ul style="list-style-type: none">Attempted to maneuver a virtual car around an in-game track without hard-coded business logic, as part of OpenAI's car racing Gym environmentTrained a deep Q-network to estimate the values of performing steering, acceleration, and braking actions for a given in-game frame and inform an agent's decision-makingThe resulting agent successfully navigates the entirety of the track, achieving an average of 832 out of a possible 1000 reward points over 100 trials	

EXPERIENCE

Software Engineer	Nov. 2021 – Current
<i>Headway</i>	<i>New York City, New York</i>
<ul style="list-style-type: none">Helping build the first asset-free national network of therapists who accept insurance	
Software Engineer II	Sep. 2019 – May 2021
<i>Amazon Web Services</i>	<i>Seattle, WA</i>
<ul style="list-style-type: none">Worked with a team that automatically disseminates security and kernel patches for over 2 million Amazon hosts	
<ul style="list-style-type: none"><i>Heterogeneous Fleets Project</i>	
<ul style="list-style-type: none">Tasked with an organization-wide goal to accommodate two types of EC2 instances in one fleetCreated a Go CodeDeploy script that allowed customers to deploy two Amazon Machine Images (AMI) through their continuous deployment pipelinesGranted customers the flexibility to provision different operating systems and architectures without having to maintain multiple pipelinesAllowed several teams to migrate to more efficient hardware, saving over \$200 million in hardware costs	

- *Custom Hash Host Selection Project*

- Tasked with preventing hosts with the same data replicas from being patched and rebooted simultaneously
- Created a new host selection algorithm in Java that prevents similar hosts from being patched together while also maximizing host up-time
- Improved the reliability of AWS data storage during security patching
- Reduced the time to patch a large AWS service's hosts by about 30%

Research Assistant

Jun. 2019 – Sep. 2019

Northwestern University (LCAN Lab)

Evanston, IL

- Tasked to create a method to automatically detect early Parkinson's disease (PD) in patients through speech features
- Engineered features based on linguistic errors patients produced during speech tasks
- Used a weighted K-nearest neighbor model that classified control and PD patients with more than 88% accuracy
- Presented poster at the World Congress on Parkinson's Disease and Related Disorders

Software Engineering Intern

Jun. 2018 – Sep. 2018

Amazon Web Services

Seattle, WA

- Worked with a security patching team to improve the usability of an internal host-patching tool
- Created a web interface where customers can visualize and interact with their patching pipelines
- Used Ruby on Rails to create an entirely new website with a webpage for creating a patching pipeline, a view to start and cancel a workflow to patch their pipeline's hosts, and an option to delete vestigial pipelines
- Improved developer productivity and increased website usage by over 50%

Software Engineering Intern

Jun. 2017 – Sep. 2017

Tumblr

New York City, NY

- Worked with the product engineering team
- Tasked with developing a more efficient way to share to Tumblr for power users
- Using JavaScript, PHP, and MySQL, developed a new browser share tool, which allows users to post third-party media to the site without directly visiting
- Observed an average increase of 20% in installations across Chrome and Firefox extensions

Teaching Assistant and Peer Mentor

Sep. 2014 – Jun. 2019

Northwestern University

Evanston, IL

- Peer-mentored various courses throughout my undergraduate tenure, including Introduction to Machine Learning, Introduction to Database Systems, Introduction to Artificial Intelligence, and Computer Programming in Racket
- Teaching assistant for a software engineering course called NUvention Web and Media

CONFERENCES AND PUBLICATIONS

World Congress on Parkinson's Disease and Related Disorders

Montreal, QC

Northwestern University

Jul. 2019

- Presented poster Promise of Automation: Development and Preliminary testing of a Language-based Machine Learning Algorithm in PD by B. Fujii, R. Richter, A. Roberts