Kohei Suzuki

Machine Learning Engineer

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Summary

One of the highly self-motivated machine learning engineers in the Vancouver area with 2 years of machine learning experience and 6 months of working experience as a machine learning engineer intern at a startup. Able to do from sourcing data to deployment for productions and always try to optimize each process by using appropriate metrics, algorithms, and data structures.

Skills

Programming Languages: Python, C/C++, SQL, Java, Bash
Machine Learning: Computer Vision, NLP, Time Series, Reinforcement Learning, Classic ML Algorithms
Python Libraries: Tensorflow, PyTorch, Pandas, Numpy, Matplotlib, OpenCV, Sklearn, Jupyter Notebook, Flask, unittest
OS: Linux, MacOS
Others: AWS (EC2, DynamoDB, CloudWatch), Github, Docker, CircleCI, Scrum, Agile, Algorithms and Data structures, Quantum programming (Dwave-Ocean-SDK)

Work Experience

Singular Software Inc.

Jan 2019 - Jun 2019

Machine Learning engineer intern
Reference from the CEO, Bruce Sharpe:
https://boblef.github.io/docs/Reference_letter_for_Kohei%20Suzuki.pdf

Singular Software is a company developed a phone-based hearing assistive app, HeardThat which was debuted at CES 2020, that helps people to hear speech in noisy situations by using the power of deep learning. The company was nominated at the top 10 out of about 200 in the New Venture BC 2019 competition and was also the winner of 2020 What's Next Innovation Challenge.

- Joined the team in the early development phase, and took initiative on the role of creating several platforms with **Flask** and Javascript for model evaluation, constructing database with **SQLite** where results of the evaluation were kept, implementing, and training machine learning models.
- Developed internal and external platforms with **clarified documentation**. The external platform was for Mechanical Turk to collect scores for each data sample that was used to calculate metrics. The internal system was a Flask application by mainly using **Matplotlib**, **Numpy,** and **Scipy** where team members could see waveform and spectrogram of any audio files and play around with them interactively.
- Presented members the result of evaluation with appropriate metrics such as **WER** and **MOS**.
- Worked with team members in an **agile** way by changing things as we needed and learned how **Scrum** works. Since the internship was **remote**, gained necessary skills such as **SSH** on **Ubuntu**, **good communication skills** with both verbal and written English with concise explanations.

Personal Projects

Twitter financial sentiment analysis

Aug 2019 - Sep 2019

Github: https://github.com/boblef/twitter_sentiment

- Was a **Flask** application deployed with **Docker** in which users can enter hashtags and keywords that they want to stream on and they can see the information of tweets collected such as the text, the date of the post, sentiment scores, and so on.
- **FinBERT**, which is a **pre-trained NLP** model to analyze the sentiment of the financial text, was used to give **sentiment scores** to tweets collected with **Tweepy**.
- **Pandas** dataframe was used to display the result on the frontend, and Javascript and jQuery were also implemented.
- **CircleCI** was used for testing the application when code was pushed to GitHub.

Sudoku Solver with Quantum Computers

Jun 2020 - Jul 2020

Github: https://github.com/boblef/sudoku_solver

- Was a **Flask** app in which it detects a sudoku puzzle through webcam, once the app found the puzzle by using **OpenCV**, it then tried to recognize a digit in each cell in the puzzle by using a **CNN** model, and created a 2-D **Numpy** array which represented the sudoku puzzle.
- Then it formulated a **Binary Quadratic Model** with the Ising objective function in order to find the solution on **D-Wave's quantum computers**. **CircleCI** was used for continuous integration.

Automated fx trading strategy with Reinforcement Learning

Jan 2020 - Present

- Have developed **MVP** within a month that includes collecting live data that is fed into a deep reinforcement learning model that returned a combination of actions that we should take, places actual orders based on the output from **DRL** model on OANDA which is a forex broker I use, and sending a push message to my LINE account with the result of transactions of each day.
- Made every process automated on **AWS EC2** by defining operations needed in a bash script and used **CloudWatch** to turn on and off the server when needed.
- Now I have worked on version two in which I try to improve the DRL model to be able to make a profit in the real market.
- For more information about this project, please visit *projects* section in https://boblef.github.io/

Education

- GCI2019 at the University of Tokyo — Dec 2019 - Mar 2020
- 7 Gate Academy, Machine Learning Bootcamp — Jul 2019 - Sep 2019
- Institute of Technology Development of Canada — Jul 2019 - Jun 2019
  Two years Diploma in Computer Science: 90.23%
- Brain Station Vancouver, Data Science Bootcamp — Apr 2018 - Jun 2018
- Bachelor Degree in Computer Science at Tokyo City University — Apr 2012 - Apr 2013