

Haoran Fei

hfei@andrew.cmu.edu | 412-253-3084 | <https://github.com/HaoranFei>

Education

Carnegie Mellon University, Pittsburgh PA

BS in Computer Science, Minor in Machine Learning, May 2021

QPA: 3.96/4.00

Courses: Algorithm Design and Analysis, Deep Reinforcement Learning and Control, Distributed Systems, Foundations of Programming Languages, Modern Regression, Intro to Machine Learning, Parallel and Sequential Data Structures and Algorithms, Computer Systems, Computational Discrete Math (Note: * are the courses I am currently taking)

Work Experience

Software Engineer, Google, <https://github.com/google/wikiloop-analysis>

May 2020 – August 2020

- Design data analysis framework to detect cross-edits patterns of suspicious behavior on Wikipedia
- Using time-series analysis to provide accurate predicative signal for user block/page protect
- Integrate the detection rules with WikiLoop-DoubleCheck, a Google-developed open-source tool to combat Vandalism on Wikipedia, using NuxtJS, VueJS and MongoDB

Teaching Assistant, Carnegie Mellon University

August 2020 – Present

- Work as teaching assistant for Deep Reinforcement Learning and Control (10-703)
- 10-703 is a Ph.D. level course on existing state-of-the-art methods for learning behavioral policies supervised by reinforcement, demonstrations and/or intrinsic curiosity
- Design written and programming assignments, lead recitation and hold weekly office hours to facilitate learning

Data Analyst, GE Transportation

May 2019 – August 2019

- Propose and design a secure data network system that will connect legacy Microsoft SQL servers to cloud-based Apache Hive datalake, in order to improve and automate engineering workflow
- As proof of concept for the network system, develop Python software to perform ETL (Extract, Transform and Load) and analytics on locomotive engine testing data sampled from legacy servers
- Use SQL queries and SAS EG to deliver production insights from incident-driven locomotive service data

Algorithms Engineer, Fusionskye Technology Co., Ltd (Beijing)

May 2018 – August 2018

- Develop integrated machine learning solutions for enterprise User Behavior Analysis and AI Operations
- Our solution combines unsupervised clustering with Autoencoders, LSTM and other deep learning models, using large financial datasets stored on Hadoop and Elasticsearch
- Solution implemented in Python, with Keras and Sklearn frameworks

Projects

RoboBuggy Software Team

Fall 2017-Present

- RoboBuggy is a project to develop a fully autonomous mini-car called Buggy
- Make ROS visualization tools for logs of Buggy course walk, as well as develop the robot controller
- ROS nodes written in C++ and Python

CDMSAT, <https://github.com/HaoranFei/CDMSAT>

December 2018

- Create a CNF-SAT solver with full documentation and customizability in C++
- Use the Davis–Putnam–Logemann–Loveland (DPLL) backtracking search algorithm

DoodleLab, <https://www.youtube.com/watch?v=JkieltSZpsM&t=3s>

September 2018

- Create a voice-controlled app that generates a custom Doodle world
- Implemented in Python, using Google Cloud NLP and Pygame
- HackCMU 2018 project that wins the Google Prize

Skills and Interests

Programming: C, C++, Python, Java, Go, SQL, R, Swift, JavaScript, TypeScript, SML, Solidity, SAS, x86 assembly

Software and Tools: SolidWorks, ROS, Node.js, Vue.js, Keras, TensorFlow, Sklearn, PySpark, Pandas, MongoDB, Apache Hadoop/Hive/Beam, SAS EG/JMP, Amazon S3/EC2/SageMaker, Pygame, Ethereum, LaTeX, Jupyter, Git

Language: English(native), Mandarin(native), Spanish(intermediate)

Interests: Badminton, Chess, Travelling, StarCraft II

Prizes and Awards

CMU School of Computer Science Dean's List, Fall 2017-present

CMU 2nd, 3rd Annual Quantathon 3rd place, out of 53 teams