Anand Jain

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EDUCATION University of Chicago B.S., Computer Science.

Expected Jun, 2021

Santa Clara High School

2017

COURSES

•Algorithms •Discrete Math •Abstract Linear Algebra •Mathematical Logic •Inventing Interactive Devices •Electronics •Computer Systems

SKILLS

Languages: Python, Julia, Go, Bash, C

Packages: PyTorch, Gym, TensorFlow, Scikit-Learn, Pandas, Flask

Spoken: Fluent English. Classroom Hindi and Spanish

EXPERIENCE

Fermilab - LSST Machine Learning Intern

Jun 24 - Aug 31 2019

- •Researched the applications of neural differential equations to astronomy for the Large Synoptic Survey Telescope
- •Used the PLAsTiCC Astronomical Kaggle dataset to train a neural network to approximate the differential equation of different astronomical objects' light curves (brightness over time)
- ullet Presented a poster of my work on Neural-ODEs at the 2019 LSST Conference in Arizona
- •Worked with peers and mentors to create a high level API for fast prototyping and ensemble training of neural networks for astronomy datasets, primarily in PyTorch
 - Tools: TorchDiffEq, DifferentialEquations.jl, PyTorch, TensorFlow, Matplotlib, Astropy, Python, Julia

PROJECTS

Sips: Sports Data Tool on Google Cloud

Oct 2018 - Now

- •Created Python package to track odds and statistics for a variety of sports
- Have collected over 1 GBs of data using Linux virtual machines on Google Cloud
- \bullet Trained Tensor Flow win/loss classification and LSTM odds prediction neural network models on Sips data
- •Wrote Flask app to visualize odds using Matplotlib
 - Tools: Python, Requests, Beautiful Soup, TensorFlow, Flask, Matplotlib
 - Link: github.com/anandijain/sips

Gym-Sips: Reinforcement Learning Environment

Feb 2019 - Now

- $\bullet \mathrm{Custom}$ reinforcement learning environments using the OpenAI Gym package for the output data of sips
- •Agent takes actions to buy the home team or the away team moneyline, and receives reward at the end of the game
- •Agent learns hedging strategies to mitigate risk
 - Tools: Python, Gym, TensorFlow, TF-Agents
 - Link: github.com/anandijain/gym-sips

ACTIVITIES

UCQuantum (.org) - Founder/President

Aug 2019 - Now

- •Unofficial club applying to become an official RSO for UChicago undergrads interested in quantum computing
- •We have 50 facebook group members and 10 active members
- •We are planning to host talks, hackathons, and lab tours with faculty on campus