JUSTIN YI

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EDUCATION

University of California, Los Angeles **Expected June 2022**
Computer Science B.S., Mathematics Minor GPA: 3.9
Relevant Coursework: Algorithms, Data Mining, Linear Algebra, Differential Equations, Real Analysis, Probability/Statistical Theory I & II, Machine Learning, Deep Learning, Reinforcement Learning, Optimization, Graph Neural Networks, Operating Systems, Computer Networking

Skills: Python, C++, Bash, git, PyTorch, numpy, sklearn, pandas, LaTex, C, SQL, Organic Chemistry

WORK EXPERIENCE

Data Science Intern **AI Camp (Edtech Startup)** **June 2021 - August 2021**

- Managed teams of student developers through **Natural Language Processing** AI product sprints by defining product scope and establishing success critical deliverables.
- Conducted preliminary research, data acquisition, and **transformer** model training/evaluation – deploying web applications with **Flask**. [1][2]
- Curated and presented machine learning concepts to groups of upwards of 100 students nationwide.
- Pioneered a novel discussion based ML fairness course offering, in which contributions of seminal papers are discussed and applied via the **AI Fairness 360** toolkit.

Undergraduate Researcher **Pilon Group, UCLA** **April 2019 - June 2020**

- Trained and evaluated an **attentive generative adversarial network** for image restoration of rain streak distorted images for applications in autonomous driving systems – using in house created datasets of 10,000+ samples.
- Performed reverse osmosis of fracking wastewater for CO_2 adsorption for a carbon negative concrete synthesis process.

Research Assistant **Bhandari Group, Cal Poly Pomona** **June 2017 - August 2017**

- Studied and implemented methods for autonomous drone navigation in GPS denied environments using OpenCV and Caffe deep learning framework for Hector SLAM mapping as part of the REU NSF program. [poster]

PROJECTS

- **On the Complexity and Convergence of Approximate Policy Iteration Schemes**
  Literature survey of approximation methods of **Policy Iteration** for **Markov Decision Processes** to with considerations of algorithmic complexity bound analysis, convergence guarantees, and rates of convergence. [poster]
- **Graph Neural Network Projects**
  Presented and demonstrated findings of a novel graph convolutional policy network for goal-directed molecular graph generation.
  Literature survey of GNN applications in the field of programming languages, namely in bug detection, similarity analysis, program synthesis, etc.
- **COVID -19 Forecasting**
  Performed data mining and analysis on time series data collected over an 8-month period to model the infection profile for the US – leveraged exponential smoothing (**Holt Winters**) and autoregressive (**ARIMA**) methods from the **statsmodels** module, with resultant MAPE of 1.26.

LEADERSHIP ACTIVITIES

ACM AI President **ACM at UCLA** **November 2019 - Present**

- Led 4 committees of 30 members through various workshop, guided project, event, and outreach offerings to the UCLA and surrounding communities.
- Developed and presented multiple 10 week workshops to teach machine learning fundamentals to cohorts of 20 undergraduate students – topics included **Neural Networks**, **Deep Learning**, Convolutional NN, Recurrent NN, Fair ML.
- Authored and edited Medium tech policy blogs exploring various relevant socially impactful tech topics: **AI Governance**, Big Tech Regulation, Climate Tech.