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

WORK EXPERIENCE

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

- Trained and ran 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.

$Ca(OH)_2$ Synthesis

- Performed reverse osmosis experiments to repurpose fracking wastewater for CO_2 adsorption for carbon negative alternative concrete synthesis.
- Performed data analysis on gathered ICP-OES (spectroscopy) data to determine chemical composition of experiment samples.

UAV Research, REU National Science Foundation *June 2017 - August 2017*
Research Assistant

- Studied and implemented methods for autonomous drone navigation in GPS denied environments using OpenCV and Caffe deep learning framework for Hector SLAM mapping. [poster]

PROJECTS

On the Complexity and Convergence of Approximate Policy Iteration Schemes *April 2020 – June 2020*
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]

COVID -19 Forecasting *September 2020 - December 2020*
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 at UCLA *November 2019 - Present*
Workshops Officer

- Developed and presented a 10 week workshop to teach machine learning fundamentals to a cohort of 20 undergraduate students – Neural Networks, Deep Learning, Convolutional NN, Recurrent NN.

Justice, Equality, Diversity, and Inclusion

- Initiative purposed toward bringing equity, diversity, and inclusion to the forefront of ACM's priorities through intentional dialogue, tangible changes to internal processes, and increased committee involvement.
- Integrated content and activities surrounding unfairness and algorithmic bias within AI workshops to increase discussion and awareness of responsible development and use of machine learning methodologies.

Impact

- Founding member of a directive geared toward facilitating conversation around socially responsible engineering, social impact technology, and tech policy – autonomous vehicles, data privacy, big tech regulatory policy, misuses of AI, etc.
- Authored Medium tech policy blogs on various relevant socially impactful tech topics: AI Governance, Big Tech Regulation, Climate Tech