

# JUSTIN YI

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## EDUCATION

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**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, Database Management Systems, Data Theory

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

## WORK EXPERIENCE

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**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<sub>2</sub> 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

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- **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

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**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](#).