Andrew **Xu**

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Education

University of California, Berkeley *May 2019*

B.S. in Electrical Engineering and Computer Science

Relevant Coursework: Artificial Intelligence, Discrete Math and Probability, Machine Structures, Machine Learning, Signals and Systems, Algorithms and Data Structures, Linear Algebra, Feedback Control, Digital Signal Processing, Computer Graphics

Honors: Eta Kappa Nu

Experience

Breakthrough Listen UC Berkeley SETI Research Center *Jun. 2017 - Present*

Research Intern

- Developed and ran Monte Carlo simulations to compare signal detectors' performance on noisy signals from radio telescopes. Some novel detectors include the Karhunen–Loève Transform and the Multitaper Method.
- Explored how ML could be used to classify radio frequency interference. Tested out SVMs, QDA, LDA, logistic regression, decision trees. Developed a classifier with over .97 accuracy. Now working on using CNNs.
- Wrote a GUI in Python to help researchers label over 15000 samples of radio frequency interference and currently still in use.

UC Berkeley Electrical Engineering and Computer Science *Sep. 2016 - Present*

Teaching Assistant

- Lead weekly 30 person discussion sections covering topics such as circuits, control, SVD/PCA and basic signal processing.
- Assisted students with applying principles learned in class to make a voice controlled robot car.

FrackOptima Inc *June 2016 - Aug. 2016*

Software Developer

- Used PyQt and PyRx to develop a UI for a cutting-edge hydraulic fracturing simulator used in the oil and gas industry.
- Managed development, testing, and deployment of the software to hundreds of customers including Shell Oil Company.
- Communicated with customers about new features, potential improvements and the future direction of the software.

Projects

CalHacks 4.0 *Oct. 2017*

Orbis: The Travelling Salmon

- Built a website that attempted to find the most optimal itinerary when it comes to travel times given a list of desired locations and amount of days. Worked primarily on Python backend.
- Took in distance matrix generated by Google Maps and constructed a graph. Then utilized Monte Carlo methods in order to cluster the graph and find the optimal paths.
- Successfully generated multiple itineraries for popular tourist destinations such as Paris, Tokyo, London, Washington, DC.

Dark VR *Sep. 2016 - Dec. 2016*

Virtual Reality at Berkeley

- Worked with a 5 person team to create a virtual reality game where players throw fruit at flesh eating deer.
- Demoed at end of year the Virtual Reality at Berkeley exhibition to hundreds of students.

Skills

- Python, PyQt, numpy, sci-py, tensorflow, scikit-learn, Java, C, git