Loren **Jiang**

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Education

University of California, Berkeley *Berkeley, CA*

BS Bioengineering, Minor: Electrical Engineering & Computer Sciences *Aug 2014 - May 2018*

GPA: 3.61

Skills

Backend Django • Django REST Framework • PostgreSQL • Python (pandas, NumPy, SciPy, PyTorch)

Frontend React • Redux • JavaScript • HTML/(S)CSS

Other Git • AWS (S3, EC2) • WebPack • Docker

Experience

UCSF Macromolecular Structure Group *San Francisco, CA*

Staff Research Associate *Sep 2018 – Dec 2019*

- Developed software to streamline research and administrative workflow for the X-Ray Crystallography facility
  - hitsDB, a full stack Django web app to streamline data collection; image classifier for protein crystallization detection; lab billing system using Python scripts to aggregate usage data from Google forms
- Maintained and trained users on robotic equipment and related software to reduce user error and equipment downtime (protein crystallization imagers, high-throughput liquid handlers)

Biomimetic Millisystems Lab *Berkeley, CA*

Robotics Undergraduate Researcher *Jun 2017 – Sep 2018*

- Designed and characterized novel electrostatic actuator technology for miniaturized applications (2-DoF micro-mirror, milli-scale robot) under guidance of Ethan Schaler Ph.D. leading to two second-authored publications
- Applied actuator technology to develop miniaturized cell shaker for summer research fellowship at UC Berkeley

Projects

hits-db *Django, PostgreSQL, jQuery, S3*

App to streamline data collection for UCSF research pipeline *hitsdb-demo.herokuapp.com*

- Designed database schema to best represent the experimental data that would be collected and wrote custom queries and transactions using Django ORM to optimize SQL performance
- Tested views and models using Python packages Factory Boy and Faker, as well as Coverage to gauge test effectiveness

xtal-classifier *Python, Docker, FastAi*

protein crystal image classifier using ResNet34 deep learning *xtal-classifier.onrender.com*

- Trained and deployed as web app a model with an accuracy of 85% using ResNet34 CNN

fpl-compare *React/Redux, Material-UI, React-vis*

Stats comparison app for Fantasy Premier League (FPL) *fpl-compare.herokuapp.com*

- Webscraped external football websites using Selenium and used API provided by FPL to provide rich, custom datasets
- Used Uber's react-vis charting library to visualize underlying data trends

object-recognizing-surface-organizer *ROS, Faster R-CNN, Python*

Baxter robot configured to recognize and move desk items *ors0.weebly.com*

- Used AR tags, which help identify an object's position and orientation within a 3D space to fine-tune kinematics
- Trained deep learning model to recognize and localize our objects

Featured

Publications

- Schaler, E. W., Jiang L., & Fearing, R. S. (2018) Multi-Layer, Thin-Film Repulsive-Force Electrostatic Actuators for a 2-DoF Micro-Mirror. *Actuator 2018, Bremen, Germany.*
- Schaler, E. W., Jiang L., Lee C., & Fearing, R. S. (2018) Bidirectional, Thin-Film Repulsive-/Attractive-Force Electrostatic Actuators for a Crawling Micro-Robot. *MARSS 2018, Nagoya, Japan.*