ZHENBANG YU

roger_yu@berkeley.edu https://rogeryu1234.github.io/zhenbangyu.github.io/ (341)-333-8616

EDUCATION

High School Affiliated to Renmin University Of China *Aug 2018 - June 2021*
International curriculum centre - AP Program

University of California Berkeley *Aug 2021 - May 2025*
Intended Physics & Computer Science

RELATED COURSEWORK

Introduction to Microelectronics (Peking University) *Oct 2020 - May 2021*
Basic concepts of semiconductor; IC (Design); MOSFET; Photolithography

Physics 5A *Aug 2021 - Dec 2021*
Introductory Mechanics and Relativity

Math 53 *Aug 2021 - Dec 2021*
Multivariable Calculus

Compsci 61A *Aug 2021 - Dec 2021*
The Structure and Interpretation of Computer Programs

RESEARCH INTERESTS

I am most interested in electrical engineering. I have basic knowledge in both physics and computer science. My favourite part is electronics. Machine Learning can be another thing I am enthusiastic with.

TECHNICAL SKILLS

Programming Languages: Python, Java, CSS, HTML, SQL, Github, Scheme, LaTeX
Software & Tools: **Software:** Photoshop, Final Cut Pro, AutoCAD, Sketchup
Packages: Numpy, Matplotlib, Pandas, Scipy, Jupyter notebook
Machine Learning: Scikit-learn

RESEARCH EXPERIENCE

Using Machine Learning to analyze pictures of possible interstellar dust *Nov 2021 - Present*
Student Assistant
- I work with Professor Zack and Professor Andrew from the Space Sciences Lab. The purpose of this research is to utilize machine learning to find possible interstellar origin of dust particles collected by the Stardust spacecraft.
- Throughout the research, we use Scikit-learn and Keras to process the image and eventually find out the decomposition of elements of the photo. We started the research by practicing different images of tracks. We tried different methods including PCA, NMF, and clustering(KMeans and DBSCAN).
- **Still in progress**

PROJECTS

Simulating Changes in Orbital Paths due to Stellar Evolution *Oct 2021 - Dec 2021*
- This project focus on the changes of mass as a function of T, we use our basic knowledge in python, numpy, and matplotlib to make animations of the changing mass.
- **Still in progress**

Using data analysis to determine Particle parameters *Sept 2021 - Present*
- This project is done by my group. We find data from the CERN's Open Data and then learn how to obtain the data and analyze them. Finally, we plan to use programming languages and packages to make the cool simulation
- **Still in progress**

WORK EXPERIENCE

Internship in Zhaopin Recruitment *June 2021 - July 2021*

Full-Stack Developer

- In one month, I went through everything a full-stack developer will do, from back-end to fron-end. I enhanced and acquire knowledge in SQl, HTML, CSS, and JavaScript.
- I worked with a friend. We compared the resume analyzed by the machine using NLP and the original resume; put the errors into categories and then put the data into database. Using data analysis and MySQL to build the database and use JDBC to connect Java code and the database to store the initial data into the database. - We use basic HTML, CSS and JavaScript to build a simple webpage which is designed to store the data user type in, or let the use get specific data from the database. Connect back end and front end using JavaScript and java - The final outcome was in a very good shape

AWARD

- Third Place in 2021 Berkeley Physics Tournament

EXTRACURRICULAR

- Society of Physics Students member
- Playing chess
- Playing guitar and bass