

# ZHENBANG YU

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## EDUCATION

<b>High School Affiliated to Renmin University Of China</b> <i>International curriculum centre - AP Program</i>	<i>Aug 2018 - June 2021</i>
<b>University of California Berkeley</b> <i>Intended Physics &amp; Computer Science</i>	<i>Aug 2021 - May 2025</i>

## RELATED COURSEWORK

<b>Introduction to Microelectronics</b>	<i>Oct 2020 - May 2021</i>
<b>Physics 5A</b> <i>Introductory Mechanics and Relativity</i>	<i>Aug 2021 - Dec 2021</i>
<b>Math 53</b> <i>Multivariable Calculus</i>	<i>Aug 2021 - Dec 2021</i>
<b>Compsci 61A</b> <i>The Structure and Interpretation of Computer Programs</i>	<i>Aug 2021 - Dec 2021</i>

## 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

<b>Programming Languages:</b>	Python, Java, CSS, HTML, SQL, Github, Scheme, $\text{\LaTeX}$
<b>Software &amp; Tools:</b>	<b>Software:</b> Photoshop, Final Cut Pro, AutoCAD, Sketchup <b>Packages:</b> Numpy, Matplotlib, Pandas, Scipy, Jupyter notebook <b>Machine Learning:</b> Scikit-learn

## RESEARCH EXPERIENCE

<b>Using Machine Learning to analyze pictures of possible interstellar dust</b> <i>Student Assistant</i>	<i>Nov 2021 - Present</i>
<ul style="list-style-type: none"><li>- 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.</li><li>- 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).</li><li>- <b>Still in progress</b></li></ul>	

## PROJECTS

<b>Simulating Changes in Orbital Paths due to Stellar Evolution</b>	<i>Oct 2021 - Dec 2021</i>
<ul style="list-style-type: none"><li>- 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.</li><li>- <b>Still in progress</b></li></ul>	
<b>Using data analysis to determine Particle parameters</b>	<i>Sept 2021 - Present</i>
<ul style="list-style-type: none"><li>- 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</li><li>- <b>Still in progress</b></li></ul>	

## WORK EXPERIENCE

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### 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 front-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 user 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

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- Third Place in 2021 Berkeley Physics Tournament

## EXTRACURRICULAR

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