

Tom Hong

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SUMMARY

Compassionate learner and researcher with well-prepared physics knowledge and statistical skills. Creative self-starter with proven abilities that solve real-life problems. Passionate about utilizing specialized knowledge in researching.

RELEVANT COURSES

AP COMPUTER SCIENCE, 5; AP CHEMISTRY, 5.

LOWER DIVISION COURSES (Taken at UCSB):

- CHEM 1A–1B GEN CHEM, A+, A+;
- PHYS 3L–4L, 25L PHYSICS LAB, A, P, A+;
- PHYS 23–25 GEN PHYS, A, A–, A– (from electric and magnetic field, special relativity to quantum mechanics).

UPPER DIVISION COURSES (Taken at UCSB):

- MATH 104A INTRO NUM ABALYSIS, A+;
- MATH 108A-108B LINEAR ALGEBRA, A, A+;
- MATH 117 METHODS OF ANALYSIS, A+;
- MATH 145 INTRO TO TOPOLOGY, A.

EDUCATION

UC, Los Angeles, *BS in Mathematics*; GPA 3.97, Los Angeles, CA Expected Jun 2023

UC, Santa Barbara, *BS in Physics and BS in Mathematics*; GPA 3.96, Santa Barbara, CA Transferred in Jun 2021

Shenzhen Middle School, GPA 4.17/4.31, Shenzhen, China Jun 2019

PROFESSIONAL EXPERIENCE

Physics Lab Training – *Physics Lab Trainee* Sep 2020 – Jun 2021

- Took a year-long series of Physics Lab training courses to train me in experimental skills and, even more importantly, the experimental mindset. Learned how to interpret the data and errors and how to improve the experiments.
- Learned how to keep a lab notebook, analyze, and extract data using MATLAB and Fiji. Learned LaTeX.
- Designed and measured an independent experiment and completed a four-page paper entitled “The effect of changing magnetic field on the output of a solenoidal DC motor” under the guidance and help of Professor Deborah Kuchnir Fygenon, and TA Toshi Parmar, and TA Liang Zhao.
- Participated in and performed experiments about Atomic Spectra, Diffraction and Interference, Franck-Hertz Experiment, Photoelectric Effect, and Radiation Absorption. Experienced and learned how to communicate and collaborate with different lab mates.

Honors Contract – *Honors Student* Sep 2020 – Dec 2020

- Met with Professor David R. Morrison once a week to discuss applying linear algebra in statistics and probabilities.
- Studied and Discussed protein folding process using Bayesian statistics, Gaussian probability function, and Markov matrices with Professor Morrison.
- Used python for data analysis and completed a five-page paper entitled “Analyzing The Death Rates of COVID-19 in The US and in The World” under Professor Morrison’s supervision.

RELEVANT PROJECTS

Project Anethum – *Programmer and Designer* Dec 2020 – Aug 2021

- Programmed and designed an original Rogue-like RPG game by using Unity with five other friends.
- Taught myself a new programming language C# in one week and 3D game engine Unity and mastered them.

Robotics Club – *Mechanical Team Leader* Dec 2016 – Jun 2018

- Recruited 20 new members & taught them to use 3D modeling software SolidWorks
- Gave directions and guidance to new members’ projects

LEADERSHIP EXPERIENCE AND ACTIVITIES

Super Solar Energy Project – *Founding Member* Jun 2017 – Feb 2019

- Executed project to decrease high school’s electricity expense. Successfully raised 300,000 yuan (approximately 43,000 dollars) and installed 100m² solar cells on the roof of the high school main teaching building
- Studied and learned energy converting efficiency by collecting data and conducting data analysis from the school’s solar station with the help from professional Solar engineers

HONORS

College Honors Program in UCLA July 2021– Present

Honors Program in UCSB Apr 2020 – Jun 2021

Dean’s Honors (L&S) in UCSB Fall 2019 – Winter 2020

10grade and 11grade American Mathematical Modeling Competition, Second prize of global level in both 2017, 2018

COMPUTER SKILLS AND INTERESTS

Programming & Software: Python, MATLAB, Mathematica, LaTeX, Fiji, Jupyter Notebook, Java, C#, SolidWorks, Unity

Interests: Math Puzzles, Game Design, Cards, Badminton, Basketball, Tenor Saxophone, Hamburger