

Jiawei Zhan

CONDENSED MATTER PHYSICS · APPLIED PHYSICS

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Education Background

University of Science and Technology of China (USTC)

Hefei, Anhui, P.R.China

SCHOOL OF PHYSICS

Dec. 2016 - present

MAJOR: APPLIED PHYSICS **MINOR:** COMPUTER SCIENCE AND TECHNOLOGY

- **Overall GPA:** 3.56/4.3 (Average Score:85.66/100)
- **Core Courses:** Computer Programming A(90), Equations of Mathematical Physics A(91), Atomic Physics(97), Function of Complex Variable A (85), Probability Theory and Mathematical Statistics(92), Optics(85), Theoretical Mechanics A(95), Calculus for Functions of Several Variables(95), Linear Algebra B1(90), Thermal Physics(90), Electromagnetism A(87), Calculus for Functions of a Single Variable(87)

University of California, Los Angeles (UCLA)

Los Angeles, U.S.

SCHOOL OF PHYSICS

Jun. 2018 - Aug. 2018

- **Overall GPA:** 4.0/4.0
- **Course taken:** Physics for Scientists and Engineers: Electrodynamics, Optics, and Special Relativity(A+), Calculus of Several Variables(200/200)
- **Selected Activities:** Visited top-class labs on campus, and assisted a classmate in guiding new students' Orientation

Selected Research Project

Summer Internship, Institute of Software, Chinese Academy of Science

Beijing, P.R.China

PROJECT: DYNAMICS INDEX UPDATE OF MOVING TAXI

Jul. 2017 - Aug. 2017

ADVISOR: PROF. LIMIN GUO

- Constructed the program in a more hierarchical and regional way, concerning about the giant amount of data, time and energy consumption. Divided different data into different groups based on its process in order to decrease the amount of iteration during data traversal. Simultaneously, constructed the database in a tree form, bringing order to the data from root to leaves, so that the consumption of time and energy would dramatically decrease.
- Established the foundation of Bitmap indexing technique by changing a giant amount of two dimensional taxis' positional messages (X-Y) into one dimensional data (Number in a grid) as well as attaching a doubly linked list to each cell, in the wish of simplifying the traversing and updating (inserting and deleting) the data in the grid.
- Used Binary heap, which could pop out the target data with its own automatic shift, to hierarchize the data.

Research, University of Science and Technology of China (USTC)

Hefei, Anhui, P.R.China

PROJECT: PARTIALLY OXIDIZED SnS_2 ATOMIC LAYERS ACHIEVING EFFICIENT VISIBLELIGHT-DRIVEN CO_2

REDUCTION

Sep. 2018 - present

ADVISOR: PROF. JIN ZHAO

- Constructed the unitcell and supercell of all SnS_2 atomic layers, poorly oxidized and mildly oxidized SnS_2 atomic layers via VESTA and Material Studio.
- Learned the uses of Vienna ab initio simulation package(VASP) and the theorem of DFT calculation. Got the DOS and band graph of SnS_2 atomic layers via python.
- Calculated electronic energy of the SnS_2 system via VASP, proved that the existence of oxygen could decreases the reaction Gibbs free energies(ΔG) of $COOH^*$, which is an intermediate product of the procedure, so that this might be regarded as a significant factor that could influence the whole CO_2 reduction process

Extracurricular Activity

Fifth Class of Physics Department, 2016

Sep. 2017 - present

VICE-MONITOR

- Hold different kinds of activities in the wish of consolidating students' safety consciousness.
- Did presentations to exhibit highlights of our class in a whole school year, which contributed to the final award of Excellent Classes of the Year in both 2017 and 2018.
- Made announcements, Recorded attendance.

Soccer Team of Physics Department

Sep. 2016 - present

OUTSIDE LEFT

- Gathered together with teammates every weekend and fought with other college teams

Professional Skills

Programming Python, C/C++, Matlab, Mathematica, LaTeX
Software: VASP, VESTA, Scidavis, Mathematica, Matlab, Vim, Material Studio
Languages Fluent English, Native Chinese
Standard English Test: TOFEL: 90(Reading 26, Listening 22, Speaking 19, Writing 23)
Hobby Soccer (One member of school team), Piano (Amateur Level 10)

Selected Honors & Awards

2018	Grand Prize , The 14th University Physics Research Experimental Paper Competition, USTC	<i>Hefei, Anhui, China</i>
2018	Bronze Award , Outstanding Student Scholarship, USTC	<i>Hefei, Anhui, China</i>
2017	4nd Prize , Champion Cup(Soccer Competition for College Teams)	<i>Hefei, Anhui, China</i>
2016	2rd Award , 30th Chinese Mathematical Olympiad	<i>Sichuan, China</i>