

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:** 3.59/4.3 (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 a more hierarchical and regional program, 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.
- constructed the database in a tree form, bringing order to the data from root to leaves.
- 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.
- Used Binary heap to pop out the target data with its own automatic shift, hierarchizing the data.
- Completed the algorithm of real-time updating the locations of taxis in the whole Beijing and looking for the nearest taxis to users.

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

Sep. 2018 - present

REDUCTION

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 step that could influence the whole CO_2 reduction process.
- Calculated the lattice parameters of different doped SnS_2 , giving out a convincing reference on whether the novel matter could be made in experiment.
- Analyzed the electronic structure and magnetic properties of Ni-O-doped SnS_2 , using first principles calculation.

Extracurricular Activity

Fifth Class of Physics Department, 2016

Sep. 2017 - present

VICE-MONITOR

- consolidated students' safety consciousness by holding different kinds of safty pedagogical activities.
- Won the final award of Excellent Classes of the Year in both 2017 and 2018 by doing annual class report
- Created a new system to record attendance, dramatically decrease the time consumption.

Soccer Team of Physics Department

Sep. 2016 - present

OUTSIDE LEFT

- Got the 4th prize in the Champion Cup.

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: 97(Reading 23, Listening 25, Speaking 27, Writing 22)

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

Hefei, Anhui, China

2018 **Bronze Award**, Outstanding Student Scholarship, USTC

Hefei, Anhui, China

2017 **4th Prize**, Champion Cup(Soccer Competition for College Teams)

Hefei, Anhui, China

2016 **2nd Award**, 30th Chinese Mathematical Olympiad

Sichuan, China