

# Jiawei Zhan

CONDENSED MATTER PHYSICS · APPLIED PHYSICS

Room 322-529, University of Science and Technology of China, Hefei, Anhui, 230026 P. R. China

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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:** 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 one of my classmates guiding freshmen during their 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( $\Delta G$ ) 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: 86(Reading 26, Listening 19, Speaking 19, Writing 22)  
**Hobby** Soccer (One member of school team), Piano (Amateur Level 10)

## Selected Honors & Awards

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2018	<b>Bronze Award</b> , Outstanding Student Scholarship, USTC	<i>Hefei, Anhui, China</i>
2017	<b>4nd Prize</b> , Champion Cup(Soccer Competition for College Teams)	<i>Hefei, Anhui, China</i>
2016	<b>2nd Award</b> , Eagle Cup(Soccer Competition for Freshmen)	<i>Hefei, Anhui, China</i>
2016	<b>2rd Award</b> , 30th Chinese Mathematical Olympiad	<i>Sichuan, China</i>