CHENGYU FANG

Mobile: (+86) 188-0029-5837 Email: fangchy@shanghaitech.edu.cn

OBJECTIVE

To apply for the Ph.D. degree in the field of Electrical Engineering

EDUCATION

ShanghaiTech University *Shanghai, China*
Bachelor of Science in Physics *Sept.2015-Jun.2019(expected)*
Overall GPA:3.69 / 4.0 RANK:3 / 43

University of Chicago *IL, USA*
Summer Exchange Program *Jul.-Aug.2016*
GPA:4.0 / 4.0

RESEARCH INTERESTS

Semiconductor Devices, Physical Electronics, Electronic Devices, Topological Insulator

RESEARCH EXPERIENCE

Zhongkai Liu's Group in Angular Resolved Photoemission Spectrum(ARPES) *Oct.2016-Apr.2018*
ShanghaiTech
Objective: Find Topological Insulator (TI) and support theory by showing experiments data.
Core Contents:

- Used ARPES experiments data to demonstrate the band structure of materials;
- Simulated Synchrotron light after the focus of zone plate to design the pattern of zone plate.
- Used ARPES beam line in National Synchrotron Radiation Laboratory(NSRL) to study Topological Insulator(TI) with group members.

Baile Chen's Group in Photoelectron Lab *Apr.2018-Present*
ShanghaiTech
Objective: Explore the mechanics of low noise property of digital alloy material AlInAsSb.
Core Contents:

- Used the Density Functional Theory(DFT) to calculate band structure of semiconductors Si and GaAs with Local Density Approximation(LDA) and HSE hybrid functional;
- Calculated the band structure of AlInAsSb digital alloy to predict the property of Avalanche Photodiode (APD);
- Ongoing: Calculation of the electron-electron scattering rate of AlInAsSb digital alloy.

ACADEMIC EXPERIENCE

Shanghai Micro Satellite Center (MicroSat) *Jun.-Aug. 2017*
Objective: Design a block in the microsat system to test the cell growth in the outer space.
Core Contents:

- Programed the single chip microcomputer to control the water and Oxygen in the block;
- Used 3D printer to construct the demonstration of the block.

SELECTED COURSE PROJECTS

Make a Radio *General Physics Ⅱ*
Used the demodulation principles to make a simple radio

Facial Recognition *Linear Algebra Course*
Used Principal Component Analysis (PCA) to find the most similar picture from the database

Design a line-following robot *Introduction to Information Science and Technology A*
Collected data from the photodiode and use PID control algorithm to guide the robot

HONORS

Merit Student of ShanghaiTech University *2018-2019*
Merit Student of ShanghaiTech University *2017-2018*
Scholarship of Overseas Exchange of ShanghaiTech University *2016*
Dean Scholarship (Top ranking 3-7%) *2015-2016*

TECHNICAL SKILLS

Scientific Analysis Equipment: Laue X-Ray Diffractometer, ARPES
Programming Languages: MATLAB, Julia, Python, Mathematica, R, LaTex
Scientific Software: Origin, VASP