

Zhiyu Deng

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EDUCATION

Tsinghua University

Department of Precision Instrument

Major in Measurement, Control Technology, and Instruments

Minor in Administration

Beijing, CHN

GPA: 3.76 / 4.0

(Anticipated June 2022)

- **Relevant Courses:** Theoretical Mechanics, Electrical Engineering and Electronics, Optical Engineering, Machine Design, Control Engineering, Measurement and Test Technology, Engineering Thermodynamics, Computer Programming (C++), etc.
- **Awards and Honors:** Comprehensive Merit Award, Academic Excellence Award, Zhongying Tang Award
- **Standardized Tests Scores:** TOEFL 95; GRE 326+4.0

RESEARCH EXPERIENCE

Undergraduate Researcher, Dept. of Precision Instrument, Tsinghua University

Optical Hydrogel Fiber for pH Sensing in Vivo (2020.10 – 2021.4)

- Developed a biocompatible and flexible optical hydrogel fiber sensor probe suitable for real-time detection of pH value, improved the detection robustness by fluorescence intensity ratio method
- Designed the optical path, tested the sensibility of the optical fiber sensor by LabVIEW
- Simulated performance of different tapered fiber to improve the light collection ability
- Presided over a Beijing Undergraduate Innovation and Entrepreneurship Training Program

Undergraduate Researcher, Dept. of Precision Instrument, Tsinghua University

Two-dimensional Optical Bound States in Materials with Zero Refractive Index (2020.6 - 2020.8)

- Learned knowledge about nano-optics, simulated performance of nano-optics with zero refractive index
- Participated in the design of a new nanophotonic crystal structure, achieved the application of changing the direction of light

Undergraduate Researcher, Dept. of Precision Instrument, Tsinghua University

Ultrasonic Distance Measurement (2020.9 - 2020.10)

- Achieved ultrasonic ranging function measured more than ten meters by using basic circuit components: resistance, inductance, capacitance, operational amplifier
- Concluded with a research paper and PowerPoint presentation to the whole class

ACTIVITIES & EXTRACURRICULARS

Olympic Winter Games Beijing 2022, Volunteer (2022.1 – 2022.3)

- Received members of the European Parliament and Chairman of Genting Group Malaysia, coordinated the itinerary of VIPs in China, arranged travel and transportation services
- Accompanied VIPs to the Capital Indoor Stadium, Wukesong Sports Center, Zhangjiakou Genting Snow Park and other venues, attended the Opening Ceremony at the Bird's Nest
- Assisted in the operation and management of the Dignitary Assistant team, integrated learning materials, coordinated volunteers arrangements

College Entrance Examination Enrollment, Team Leader (2019.6, 2020.7, 2022.6)

- Introduced the history and development of Tsinghua University to high school graduates
- Took responsible for the enrollment of high school alma mater, rated as an excellent volunteer, praised highly by teachers

Education for Poverty Alleviation, Volunteer (2019.7 - 2019.8)

- Designed and taught a two-week history course for 60 local pupils in one of the poorest villages in China
- Stimulated their interest in history, let them have a preliminary understanding of Chinese history, won the Tsinghua University Silver Award for Social Practice

SKILLS & INTERESTS

- Proficient in C++, MATLAB, SolidWorks, AutoCAD, FDTD Solutions, Origin, Python
- Familiar with LabVIEW, COMSOL Multiphysics
- Tennis, Water Polo, Fencing, Swimming, Badminton, Piano, Sketch, Travel(8 countries visited)