

# Xieheng Wang

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*I'm looking for a PhD opportunity starting from fall 2023.*

## Research interests

High dimensional statistics, dimension reduction, spatial statistics, causal inference

## Education

**Tsinghua University**

**Beijing, China**

*B.Eng. in Measurement, Control Technology and Instruments*      GPA: 3.72/4.0  
Sept. 2019 – Present

*minor in Statistics*      GPA: 3.89/4.0  
Mar. 2021 – Present

## Research experience

### **Relationships and Shared Genetic Influences between T2D Biomarkers and Human Brain Health**

*Mentor: Bingxin Zhao (University of Pennsylvania)*      Apr. 2022 – Present

- Explored the association between Type 2 diabetes and human brain from individual level and summary level.

### **Pure Noise Enables Privacy-preserving Federated Learning with Non-iid Data**

*Mentor: Huaiyu Dai (North Carolina State University)*      July 2022 – Aug. 2022

- Applied OPeN (Oversampling with Pure Noise Image) in the framework of federated learning to enhance performance and privacy.

### **Feature-based Classification on MQTT Data**

*Mentor: Jingyi Zhang (Tsinghua University)*      Oct. 2021 – Present

- Applied POTD (principal optimal transport direction) on MQTT-IoT-IDS2020 dataset to extract features distinguishing different attacks. *One working paper now available in [arxiv](#).*
- Proposed a new ensemble method of classification based on SDR subspace using POTD.

### **Design and Construction of Vision-based Quadrotor Navigation Control System**

*Mentor: Kaichun Zhao (Tsinghua University)*      Sept. 2020 – Dec. 2021

- Applied some visual SLAM methods like SuperPoint on real image data obtained by drone in the environment of smoke.

Teaching experience	<b>Teaching assistant, Department of Military (Tsinghua University)</b> <i>Spring 2022</i> <i>The Martial Geomorphology and The Directional Sport (Orienteering)</i> <ul style="list-style-type: none"> <li>• Help place the control points for maps before class and recycle them after class.</li> </ul>
Honors and scholarships	Academic Excellence Scholarship, Tsinghua University <i>2021</i> Sports Excellence Scholarship, Tsinghua University <i>2021</i> Academic Excellence Scholarship, Tsinghua University <i>2020</i> Sports Excellence Scholarship, Tsinghua University <i>2020</i>
Skills	<b>Programming</b> R, Python, PyTorch, MATLAB, C/C++ <b>Tools</b> $\LaTeX$ , Linux, SPSS, Git, OCAD <b>Languages</b> English (TOEFL:102, CET-6:630), Mandarin (native)
Standardized Tests	GRE:323 (Verbal:154, Quantitative:169, AW:3.5)
Leadership&Activities	Vice president of Tsinghua University Student Orienteering Association <i>Sept. 2022 - Present</i> Member of Tsinghua Orienteering Team <i>Oct. 2019 - Present</i>