

# Ut Gong

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## EDUCATION

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### University of Washington

Seattle, WA

B.Sc. in Informatics **GPA: 3.88/4.00 Major GPA:3.98/4.00**

Sep 2020 – Dec 2023

**Main Course:** Matrix Algebra with Applications (3.9), Elements of Statistical Methods (4.0), Data Structures and Algorithms (3.8), Databases and Data Modeling (4.0), Advanced Data Science Methods (4.0), Software Architecture (4.0), R programming for Quantitative Finance (3.8), Search and Recommendation System (3.8)

**Skills:** Java, JavaScript, Python, R, C#, MySQL, Unity3D, Figma

## EXPERIENCE

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### Harvard John A. Paulson School of Engineering and Applied Sciences

Massachusetts, USA

Research Fellow

Starting Aug 2024, Full-time

- Researching the intersection of sports with computer vision and generative AI, exploring diverse perspectives such as injury prevention and prediction, sports camera movement, and storytelling under the supervision of Professor Hanspeter Pfister.

### Zhejiang University State Key Lab of CAD&CG

Zhejiang, China

Research Assistant

Jun 2023 – Present, Full-time

- Exploring the question, "How can data visualization and data mining skills facilitate the engagement of accessibility communities in sports?" under the supervision of Professor YingCai Wu.
- Developed innovative visualization and interaction techniques with nascent **XR platforms** (Oculus Quest and HoloLens) to enable efficient information retrieval and visual analytics in dynamic environments.

### JD Intelligent Cities Research

Beijing, China

Algorithm Engineer Intern

Jul 2022 – Dec 2022, Full-time

- Conducted **urban computing research**, applying innovative **data mining and visualization** techniques to address critical challenges associated with the COVID-19 pandemic under the supervision of Dr. Yu Zheng and Dr. Jie Bao.
- Developed advanced predictive systems and bots for modeling the spread of COVID-19 diseases, encompassing back-end and front-end algorithms using **Java, JavaScript, Python, MySQL, and iMonet**.

## PUBLICATIONS

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1. **Ut Gong\***, Weichen Sun, Shuhan Liu, Yang Liu, Tan Tang, and Yingcai Wu. "TimeFolder: A Universal Framework for Enhancing Visualization Across Time-Oriented Data Methods." *Computational Visual Media (Computational Visual Media Conference (CVM), 2025)* (Under Review).
2. **Ut Gong**, Qihan Zhang, Ziqing Yin, and Stefanie Zollmann. "Collaborative XRTactics: A Formative Study on Tactical Communication in Outdoor Team Sports." *IEEE Visualization Conference(VIS) Workshop, 2024* (Accepted).
1. **Ut Gong**, Hanze Jia, Yujie Wang, Tan Tang, Xiao Xie, and Yingcai Wu. "VollyNaut: Pioneering Immersive Training for Inclusive Sitting Volleyball Skill Development 2024." *IEEE Conference on Virtual Reality and 3D User Interfaces(VR), 2024* (Published).

## PROJECTS

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### HoopGuard

Harvard Visual Computing Group

- Developed a tool in collaboration with professional biomechanists to analyze basketball injuries using **pose estimation and tracking techniques**.
- Implemented features for comparing athletes' poses to similar poses from their own performance or others, with advanced visualizations to interpret angular velocity and biomechanical data.

## Luminiscent Flora: The Breath of Life

Self

- Developed a **VR mindfulness experience** that integrates breath-controlled interactions with nature, using an IoT device to transform user breathing into dynamic ecosystem growth.
- Created a three-stage virtual environment where user breathing generates water drops that nourish and evolve mushrooms, fostering a calming, immersive connection between breath and nature.

## CardMaster

Self

- Developed a specialized gesture module to enhance digital card games with **advanced hand tracking and gesture recognition**.
- Collaborated with a hometown company to implement features that improve user interaction and gameplay experience through intuitive hand gestures.

## StoryPartition

Zhejiang University Interactive Data Group

- Proposed and developed **StoryPartition**, a novel storyline visualization algorithm designed to optimize storyline layouts for visual exploration of large-scale interaction datasets.

## LangTime\_Engine

University of Washington & LangTime Studio

- Developed an application to facilitate language creators in the creation and management of customized dictionaries for their new languages using **Javascript and Firebase Database**.
- Implemented features to 'CRUD' dictionaries, as well as generate PDF outputs and view language statistics.

## AWARDS & ACHIEVEMENTS

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**Dean's List:** An accolade exclusively designated for **high-achieving** undergraduate students at the University of Washington's Information School. *(Sep 2020 - Jun 2023)*

**Elite Institutions Program Fellowship:** The Government of the Macao Special Administrative Region's Education and Youth Development Bureau provides prestigious scholarships to support exceptional students in pursuing their education at renowned institutions. These scholarships, limited to **10 awards per year** for the entire region of Macau, aim to assist outstanding individuals in accessing education at top-tier institutions. *(Sep 2021 - Jun 2024)*

**Captain of the Macau Women's National Volleyball Team:** Represented Macau in various international tournaments and achieved the highest historical ranking for Macau in the 14th Chinese National University Games, earning qualification for the Chengdu 2021 FISU World University Games. *(Dec 2016 - Sep 2022)*

## CERTIFICATES

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MIT Data Science and Machine Learning: Making Data-Driven Decisions

*Apr 2022*

Alibaba Cloud apsara clouder big data special skill certification

*Feb 2022*

## VOLUNTEER

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### Adaptive Volleyball Coach

*Jan 2016 - Sep 2022*

- Coached volleyball for diverse groups, including elementary school children and **individuals with disabilities**.
- Adapted coaching methods to suit varying skill levels and abilities, fostering an inclusive and supportive environment for all participants.

### UW Leader Associated Students of the University of Washington

*Jan 2021 - Jun 2021*

- Strengthened dedication to inclusive leadership through collaborative engagement in targeted training modules addressing challenges of underrepresented communities.
- Covered diverse subjects such as Finance, Education, Medication, Social, and more.

### Private Tutor

*Aug 2017 - Sep 2021*

- Provide tailored academic support and mentorship in subjects like Mathematics, Science, English, and History to empower students from **low-income backgrounds**.
- Develop personalized lesson plans to address individual learning needs, fostering a supportive and conducive learning environment.
- Offer guidance on study skills, organization, and college preparation to enhance academic performance and expand educational opportunities.

### STEM Workshop Organizer STEMIE

*Jun 2017 - Aug 2020*

- Organized dynamic STEM workshops for teenagers, showcasing adaptable communication and leadership skills.
- Engaged diverse audiences through interactive sessions, fostering interest in science, technology, engineering, and mathematics.