Ru Wang

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EDUCATION

University of Wisconsin-Madison   *Madison, WI*
PhD in Computer Science   *Sep 2021 - Present*

University of California San Diego   *La Jolla, CA*
MS in Computer Science, GPA: 3.86/4.00   *Sep 2019 - Jun 2021*

Shanghai Jiao Tong University   *Shanghai, China*
BS in Information Engineering, GPA: 3.71/4.00   *Sep 2015 - Jun 2019*

PUBLICATIONS

Conference Papers:

[1] Danilo Gasques, Janet Johnson, Tommy Sharkey, Yuanyuan Feng, **Ru Wang**, Zhuoqun Robin Xu, Enrique Zavala, Yifei Zhang, Wanze Xie, Xinming Zhang, Konrad Davis, Michael Yip, Nadir Weibel. ARTEMIS: A Collaborative Mixed-Reality System for Immersive Surgical Telementoring. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems (CHI '21)*

[2] Zhuoran Song, **Ru Wang**, Dongyu Ru, Zhenghao Peng, Hongru Huang, Hai Zhao, Xiaoyao Liang, Li Jiang. Approximate Random Dropout for DNN training acceleration in GPGPU. In *Design, Automation & Test in Europe Conference & Exhibition (DATE), 2019.*

RESEARCH PROJECTS

Attention-Aware AR Systems to Empower People with Low Vision   *Jul 2021 - Present*
Advised by Prof. Yuhang Zhao, UW-Madison CS
- Led the project and developed accessible user interface for eye-tracking calibration for people with low vision,
- Developed a calibration algorithm to better adapt to the vision-use pattern of people with central vision loss.

AR Systems to Facilitate Safe Cooking for People with Visual Impairment   *Aug 2020 - Present*
Advised by Prof. Yuhang Zhao & Prof. Bilge Mutlu, UW-Madison CS
- Observed blind/low vision (BLV) participants cooking at home and conducted interview with BLV participants and occupational therapists,
- Analysed qualitative data to extract BLV people's challenges and needs in kitchen activities.

CogTeach: Online Teaching Platform with Real-time Cognitive Feedback   *Oct 2020 - Present*
Advised by Prof. Xinyu Zhang, UCSD ECE
- Built a system prototype to synchronize gaze information across teacher end and student end,
- Developed an active query and classification mechanism to detect students' confusion state on the fly.

ARTEMIS: Augmented Reality Technology-Enabled reMote Integrated Surgery   *Jul 2020 - Dec 2020*
Advised by Prof. Nadir Weibel, UCSD CSE
- Conducted cadaver studies in a local hospital to evaluate the system performance,
- Observed and analyzed surgeons' communication behaviors in different surgical procedures,

Approximate Random Dropout for DNN Training Acceleration in GPGPU   *Dec 2017 - May 2018*
Advised by Prof. Li Jiang, SJTU
- Designed and implemented a time-efficient dropout algorithm to reduce unnecessary computation in matrix multiplication,
- The fully-connected layer with proposed dropout method is 2X faster in training phase, with negligible accuracy drop.

PROFESSIONAL EXPERIENCE

Computer Sciences, UW-Madison *Madison, WI*
Research Assistant *Aug 2021 - Present*

Weibel's Lab, UCSD CSE *La Jolla, CA*
Research Assistant (GSR) *Jul 2020 - Sep 2020*

Tencent *Beijing, China*
Software Engineering Intern *Jun 2019 - Aug 2019*

Clobotics *Shanghai, China*
Software Engineering Intern *Dec 2018 - Jun 2019*

HONORS & AWARDS

Winner *CHI 2021 Student Volunteer (SV) happi design contest* *2021*

Overseas Research Scholarship (First Class) *Shanghai Jiao Tong University* *2019*

SERVICES

Student Volunteer *CHI 2021* *2021*

TECHNICAL SKILLS

Programming: Python, C/C++, C#, JavaScript, Java, Scala, LaTeX, HTML/CSS, Git
Software & Tools: **ML/DL:** PyTorch, Scikit-Learn
Others: Unity, Android Studio, Arduino, Adobe Illustrator, Spark