Yan Ma

Curriculum Vitae

Department of Computer Science
Stony Brook University
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Research Interests

Human-Computer Interaction, with a focus on AI-powered input technologies, human performance modeling, and VR/XR interaction techniques. Currently engaged in developing LLM-based interaction methods to enhance user performance and experience.

Education

2019–present **Ph.D. in Computer Science**, *Stony Brook University*, GPA: 3.98/4.0.

2022 M.S. awarded during Ph.D. program

2017–2019 **B.S. in Computer Science**, *Binghamton University*, GPA: 4.0/4.0.
Academic Excellence Award (Ranked 1st in Class of 2019)

2014–2018 **B.S. in Applied Mathematics**, *Renmin University of China*, Major GPA: 3.58/4.0.
Second-Class Academic Excellence Scholarship (Top 15/133)

Publications

***** denotes equal contribution. † denotes co-advising of undergraduate students.

Accepted Articles

2025 **Yan Ma**, Dan Zhang, IV Ramakrishnan, and Xiaojun Bi. Llm powered text entry decoding and flexible typing on smartphones. In *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems*, 2025.

2025 **Yan Ma**, Tony Li, Zhi Li, and Xiaojun Bi. Llm-powered text entry in virtual reality. In *2025 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops*, 2025.

2025 Hyunchul Lim, Nam Anh Dang, Dylan Lee, Tianhong Catherine Yu, Jane Lu, Franklin Mingzhe Li, Yiqi Jin, **Yan Ma**, Xiaojun Bi, Francois Guimbretiere, and Cheng Zhang. Spellring: Recognizing continuous fingerspelling in american sign language using a ring. In *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems*, 2025.

2023 Jeremy Chu, **Yan Ma**, Shumin Zhai, Xianfeng David Gu, and Xiaojun Bi. Touchtype-gan: Modeling touch typing with generative adversarial network. In *Proceedings of the 36th Annual ACM Symposium on User Interface Software and Technology*, 2023.

2023 Jeremy Chu, Dongsheng An, **Yan Ma**, Wenzhe Cui, Shumin Zhai, Xianfeng David Gu, and Xiaojun Bi. Wordgesture-gan: modeling word-gesture movement with generative adversarial network. In *Proceedings of the 2023 CHI conference on human factors in computing systems*, 2023. 🏆 **Best Paper Honorable Mention Award**.

2022 Zhi Li, Maozheng Zhao, Dibyendu Das, Hang Zhao, **Yan Ma**, Wanyu Liu, Michel Beaudouin-Lafon, Fusheng Wang, Iv Ramakrishnan, and Xiaojun Bi. Select or suggest? reinforcement learning-based method for high-accuracy target selection on touchscreens. In *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems*, 2022.

2022 Sophia Gu*, **Yan Ma***†, Zhi Li, Xiangmin Fan, Feng Tian, and Xiaojun Bi†. Using deep learning to detect motor impairment in early parkinson's disease from touchscreen typing. In *Graphics Interface 2022*, 2022. * **Co-first author,** † **co-supervised Sophia**.

2021 **Yan Ma**, Shumin Zhai, IV Ramakrishnan, and Xiaojun Bi. Modeling touch point distribution with rotational dual gaussian model. In *The 34th annual acm symposium on user interface software and technology*, 2021.

2019 Zilai Li, **Yan Ma**, and Yaobin Ou. Global strong solutions to 1-d vacuum free boundary problem for compressible navier–stokes equations with variable viscosity and thermal conductivity. *Journal of Mathematical Analysis and Applications*, volume 474, pages 1153–1177. Elsevier, 2019.

Working Papers

2025 **Yan Ma**, Zhi Li, Rui Liu, IV Ramakrishnan, Fusheng Wang, and Xiaojun Bi, Joystick-based Word-Gesture Text Input. *Under Submission*.

2025 Dan Zhang, **Yan Ma**, Glenn Dausch, William H Seiple, Xianfeng David Gu, IV Ramakrishnan, and Xiaojun Bi, Intelligent Braille Keyboard on Smartphones. *Under Submission*.

Teaching Experience

Stony Brook University, Stony Brook, NY

Spring 2025 & Spring 2021 **CSE/ISE/EST323: Human Computer Interaction**, *Guest Lecturer and Teaching Assistant*.
Assisted in designing homework assignments, grading exams, and providing tutorials. Delivered 3 lectures in Spring 2025 and 3 lectures in Spring 2021. Assisted during lectures, held office hours, and answered student questions both in person and on Piazza.

Fall 2020 **CSE548: Analysis of Algorithms (Graduate Level)**, *Teaching Assistant*.
Assisted in delivering lectures, held office hours to support students, graded homework and exams, and wrote solutions for exams.

Spring 2020 & Fall 2019 **CSE303: Introduction to the Theory of Computation**, *Teaching Assistant*.
Assisted in delivering lectures, held office hours for one-on-one student support, graded and wrote solutions for assignments and exams, and answered over 200 questions on Piazza. Was nominated for the *Best TA Award* in Spring 2020 for exceptional teaching and student support.

Renmin University of China, Beijing

Summer 2016 **Programming Bootcamp**, *Course Assistant*.
Led lab sessions for an intensive programming course, focusing on hands-on coding exercises and problem-solving. Provided mentorship and guidance during lab hours, helping students overcome challenges.

Technical Skills

Languages: Python, Java, C#, C/C++, R, JavaScript, PHP, Prolog, Kotlin

Tools/Software: Jupyter, Git, Unity, Android Studio, LaTeX, PyCharm, Eclipse, Visual Studio, Node.js, D3.js

Libraries: NumPy, Pandas, Scikit-learn, PyTorch, PyStan, Hugging Face, NLTK, Keras, Flask

Professional Services

Conference/Journal Reviewer

2025 CHI, IEEE VR, IMWUT, IUI, MobileHCI, ICWSM, DIS.

2024 IJHCS, CHI, UIST, SUI, IMX, IDC, ISS, CUI **(Special Recognition for Outstanding Reviews)**.

Mentoring/Training

Summer 2024 **Computer Science & Informatics Summer Research Experience (CSIRE) Program Mentor**, Mentored high school student Jerry Yao on a VR text editing project, helping him develop key research skills. Jerry presented his research at the CSIRE seminar as a presentation and a poster.

Summer 2021 **CSIRE Program Mentor**, Mentored high school student Sophia on a Parkinson's disease detection research project, providing guidance that contributed to a published paper.

Fall 2020 & Spring 2021 **CEAS TA Training Ambassador**, Supported the College of Engineering and Applied Sciences TA training program by holding office hours, organizing discussion sections, and offering practical tips to new TAs to enhance their teaching development.