

# WENYI WANG

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## EDUCATION

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<b>Northwestern University</b> M.S., Computer Science • GPA: 3.91/4.0	Evanston, Ill. Sept. 2019–Mar. 2021
<b>University of California, Irvine</b> Visiting Student and Research Assistant, Dept. of EECS • GPA: 4.0/4.0	Irvine, Calif. Jul.–Sept. 2018
<b>Northeastern University</b> B.E. in Software Engineering • Major GPA: 3.9/4.0	Shenyang, China Sept. 2015–Jul. 2019

## PUBLICATIONS

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- J. Ma, **W. Wang**, A. Neilson, M. Cuevas, B. Homerding, C. Liu, Z. Huang, S. Campanoni, K. Hale, P. Dinda, “Paths to OpenMP in the Kernel,” *International Conference for High Performance Computing, Networking, Storage, and Analysis (SC21)*

## SELECTED AWARDS AND HONORS

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- **Exceptional Funding of the Nation (China)**, awarded to the top 5%, the 12th National Innovation Training Program for College Students (2018)
- **Gold Award**, China College Students’ Entrepreneurship Competition in Liaoning Province (2018)
- **Nationwide Second Prize**, China, “Innovation has a future” University AI Innovation Grand Competition (2018)
- **Second-prize Scholarship**, Northeastern University (Academic Merit, 2018)
- **Third-prize Scholarship**, Northeastern University (Academic Merit, 2016)
- **Third Prize**, Mathematics Competition of Chinese College Students, Liaoning Province (involves one million college students, 2016)

## RESEARCH EXPERIENCE

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<b>Massachusetts Institute of Technology</b> Graduate Research Intern for Professor Pattie Maes and Dr. Camilo Rojas <i>Media Lab</i> , <a href="#">Project Us</a>	Cambridge, Mass. May 2021–present
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- Led the effort to develop an artificial intelligence emotion recognition system that can provide real-time feedback from the cloud
- Performed advanced work on all layers of the stacks, including front-end and back-end development, pushing the project to the client-ready pilot stage while participating in the MIT delta v program
- Achieved comparable performance by improving and implementing an emotion recognition model, with only half of the training data from the RECOLA paper
- Built a testbed including a complete pipeline for audio preprocessing, voice emotion detection and real-time audio demonstration, and developed an MS Teams App

**Carnegie Mellon University**

Graduate Research Intern for Professor Min Xu

Pittsburgh, Pa  
May 2021–present[Xu lab](#), *Saliency Detection for Cryo-Electron Tomography*

- Led the research on 3D saliency detection for Cryo-ET by applying attention mechanism and teacher-student model in an unsupervised environment
- Researched and wrote VS Code Remote SSH tutorial for AITom -- contributions can be found [here](#)
- Contributed to baseline experiments and paper writing for the lab's new saliency detection project

**Northwestern University:**

Graduate Research Assistant for Professor Peter Dinda

Evanston, Ill.  
Mar. 2020–Aug. 2021[PLab](#), *The Interweaving Project*

- Achieved an average performance gain of 22% (geometric mean) across scales and benchmarks for runtime in kernel implementation by inspecting runtime behavior
- Customized LLVM/OpenMP runtime library libomp and implemented pthread-embedded library to make libomp function within Nautilus kernel
- Discovered a Floating-Point logic error in Nautilus codebase by benchmarking Gaussian elimination
- Ported different benchmarks including NAS Parallel Benchmarks

**Northeastern University**

Team Leader under Professor Tao Ren

Shenyang, China  
Nov. 2016–Nov. 2018*Immersive and Intelligent Humanoid Robot Control System*

- Led design of the overall structure of the control system, contributing 60% of the project's code on three different platforms with five programming languages
- Designed an algorithm to achieve body movement and gesture recognition based on Kinect and enable the robot to move more naturally and accurately
- Proposed novel ideas for developing the robot's "deduction" abilities in accordance with the environment
- Implemented that idea into a system that can provide hints for searching for objects that are not recognized by the object detection algorithm in the current camera capture frame

**University of California, Irvine**

Independent Study under Professor G.P. Li

Irvine, Calif.  
Jun.–Sept. 2018[Calit2](#), *Intelligent Charging System for Electric Vehicle*

- Designed overall architecture of a smart EV charging system and implemented corresponding modules
- Implemented the back-end data collector module that fetches real-time energy blend data from California ISO and the Power Predictor module that predicts future power usage

**ADDITIONAL INFORMATION**

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**Research Interests:** Systems for AI, AI for Systems, Parallel Systems, Cloud, Distributed Systems, HPC, Machine Learning**Computer Skills:** C, C++, Java, Python, HTML, JavaScript, C#, MATLAB, OpenMP, LLVM, TensorFlow, PyTorch, Flask, JSP, SQL, MongoDB**Extracurricular activities:** President of the Foreign Affairs Department, Northeastern University Student Association for Science and Technology