

# Zhuolin (Jolynn) Yang

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RESEARCH AREA      Security and Mobile/IoT Sensing

EDUCATION      **University of Chicago (UChicago)**  
Ph.D., Computer Science, 2019 - Present  
Advisors: Prof. Ben Y. Zhao and Prof. Heather Zheng

**University at Buffalo (UB), the State University of New York (SUNY)**  
B.S., Computer Science (with Mathematics Minor), 2018  
Advisor: Prof. Wenyao Xu

HONOR

- Best Paper Award, ACM Conference on Embedded Networked Sensor Systems (SenSys'19), 2019 [[1 out of 28 accepted papers from 144 submissions](#)]
- NSF Travel Grant Award, ACM MobiCom, 2019
- Elaine K. Bernstein Women in Science Award, Physical Sciences Division, UChicago, 2019
- McCormick Fellowship, Department of Computer Science, UChicago, 2019
- Finalist Award (Project: mRehab), New York State Department of Health Aging Innovation Competition, 2018 [[5 out of 74 competitors](#)]
- Best Paper Runner-Up Award, ACM Conference on Embedded Networked Sensor Systems (SenSys'18), 2018 [[5 out of 23 accepted papers from 147 submissions](#)]
- UB's Cambridge Undergraduate Scholar, 2018
- ACM Richard Tapia Celebration of Diversity in Computing Scholarship, 2018
- UB CSE Departmental Research Award, 2018 [[2 out of 1191 graduates](#)]
- 2nd Place Award, Aging Innovation Challenge in UB Blackstone LaunchPad, 2018
- UB CURCA Research Award, 2017
- Grace Hopper Celebration Scholar, 2017 [[657 out of 18,000+ attendees](#)]
- NSF Student Attendance Scholarship, 2017
- Dean's List, 2015 and 2017
- 3rd Place Award, Mathematics Contest of Guangdong, 2010 [[Provincial level award](#)]

PUBLICATION

- Y. Chen, **Z. Yang**, R. Abbou, P. Lopes, B. Zhao, H. Zheng, "User Authentication via Electrical Muscle Stimulation", Proceedings of ACM CHI Conference on Human Factors in Computing Systems ([CHI'21](#)), Yokohama, Japan, April 2021 (**Conference full paper**)
- Z. Li, F. Ma, A. S. Rathore, **Z. Yang**, B. Chen, L. Su, and W. Xu, "WaveSpy: Remote and Through-wall Screen Attack via mmWave Sensing", IEEE Symposium on Security and Privacy ([IEEE S&P'20](#)), San Francisco, US, May 2020 (**Conference full paper**)

- Z. Li, B. Chen, **Z. Yang**, H. Li, C. Xu, X. Chen, K. Wang and W. Xu, “*FerroTag: A Paper-based mmWave-Scannable Tagging Infrastructure*”, ACM Conference on Embedded Networked Sensor Systems (**SenSys’19**), New York, US, Nov. 2019 [**Best paper award**] (**Conference full paper**)
- Z. Li, A. S. Rathore, B. Chen, C. Song, **Z. Yang** and W. Xu, “*SpecEye: Towards Pervasive and Privacy-Preserving Screen Exposure Detection in Daily Life*”, ACM International Conference on Mobile Systems, Applications and Services (**MobiSys’19**), Seoul, South Korea, June 2019 (**Conference full paper**)
- Z. Li, **Z. Yang**, C. Song, C. Li, Z. Peng, W. Xu, “*E-Eye: Hidden Electronics Recognition through mmWave Nonlinear Effects*”, ACM Conference on Embedded Networked Sensor Systems (**SenSys’18**), Shenzhen, China, Nov. 2018 [**Best paper runner-up award**] (**Conference full paper**)
- **Z. Yang**, C. Song, F. Lin, J. Langan, W. Xu, “*Empowering a Gait Feature-Rich Timed-Up-and-Go System for Complex Ecological Environments*”, ACM/IEEE International Conference on Connected Health: Applications, Systems and Engineering Technologies (**CHASE’17**), Philadelphia, US, July 2017 (**Conference full paper**)
- **\*Z. Yang**, \*Y. Wu, F. Lin, W. Xu, “*Towards Batteryfree and Wireless Sensing for Personalized Ultraviolet Exposure Monitoring*”, IEEE Sensors Journal (SJ), Volume 18, Issue 13, Page 5515-5521, July 2018 (\*Co-first author) (**Journal article**)
- **Z. Yang**, C. Song, F. Lin, J. Langan, W. Xu, “*A Smart Environment-Adapting Timed-Up-and-Go System Powered by Sensor-Embedded Insoles*”, IEEE Internet of Things Journal (**IOTJ**), June 2018 [**Impact Factor: 5.863**] (**Journal article**)
- **Z. Yang**, M. Stafford, W. Xu, “*R-SAM: A Robust Stroke Rehabilitation System Augmented by Smartphone and Additive Manufacturing*”, ACM Richard Tapia Celebration of Diversity in Computing Conference (Tapia’18), Orlando, US, Sept. 2018 (**Poster**)
- **Z. Yang**, Z. Li, Y. Zhuang, W. Xu, “*Poster: Respiration-based Inclusive User Authentication Enabled by Radio Frequency Sensing*”, ACM International Conference on Mobile Systems, Applications and Services (**MobiSys’18**), Munich, Germany, June 2018 (**Poster**)
- **Z. Yang**, F. Lin, W. Xu, J. Langan, L. Cavuoto, Z. Li, Q. Li, “*Validation of a Novel Gait Analysis System*”, ACM/IEEE International Conference on Connected Health: Applications, Systems and Engineering Technologies (**CHASE’17**), Philadelphia, US, July 2017 (**Poster**)

ACADEMIC  
PRESENTATION

- Presentation, ACM Conference on Embedded Networked Sensor Systems (**SenSys**), Nov. 2018
- Poster, ACM Richard Tapia Celebration of Diversity in Computing, Sept. 2018
- Presentation, Cambridge Undergraduate Scholars Program, UK, Aug. 2018
- Poster, Celebration of Student Academic Excellence, SUNY Buffalo, Apr. 2018
- Poster, SUNY Annual Undergraduate Research Conference, Apr. 2018
- Demo, Women in Science and Engineering Accepted Students Day, SUNY Buffalo, Mar. 2018
- Poster, Welcome Reception and Undergraduate Demonstrations, SUNY Buffalo, Sept. 2017
- Poster, Celebration of Student Academic Excellence, SUNY Buffalo, Apr. 2017
- Presentation and Poster, ACM/IEEE International Conference on Connected Health: Applications, Systems and Engineering Technologies (**CHASE**), July. 2017

RESEARCH  
EXPERIENCE

**Ph.D, SAND Laboratory, University of Chicago, Summer 2019 - Present**

- Electrical muscle stimulation based inclusive active biometrics (In submission)

**Research Assistant, Embedded Sensing and Computing Group, CSE, University at Buffalo (SUNY), 2016 - Spring 2019**

- WaveSpy: Through-wall Screen Attack via RF Sensing [[IEEE S&P'20](#)]
- SpecEye: Privacy-preserving Screen Exposure Monitoring via PN Junction [[ACM MobiSys'19](#)]
- Validation of Sensor-equipped Insole Using VICON [[NIH Proposal](#)]
- E-Eye: RF Sensing Based Hidden E-device Recognition [[ACM SenSys'18](#)]
- Inclusive User Interface Design via Respiration Analysis [[ACM MobiSys'18](#)]
- Batteryfree and Wireless UV Exposure Monitoring System [[IEEE Sensors Journal](#)]
- mRehab: Rehabilitation System Using 3D Printing Augmented Smartphone [[ACM Tapia'18, Aging Innovation Competition and Challenge](#)]
- Smart Tablet Based Motor Learning Analysis System
- SITUG: Sensor-equipped Insole Based Gait and TUG Analysis System [[IEEE/ACM CHASE'17 and IEEE Internet of Things Journal](#)]

**Visiting Student, NetOS Group, University of Cambridge, Summer 2018**

- Smartphone-Based On-Device Smoking Cessation System
- Customizable Smartphone-Based Framework for Mobile Health Studies

TEACHING  
EXPERIENCE

- CSE113: *Introduction to Computer Programming*, Fall 2017 [[Undergraduate Teaching Assistant to 150+ freshman students](#)]

ACTIVITY

- Volunteer guide, Women in Science and Engineering Accepted Students Day, SUNY Buffalo, Mar. 2018
- Participant, Video “*Through Her Eyes: Pathways*” by Melinda Gates for Computer Science Education Week, Dec. 2017
- Volunteer, ACM/IEEE International Conference on Connected Health: Applications, Systems and Engineering Technologies (**CHASE**), Philadelphia, US, July. 2017
- Volunteer, Spring Shoreline Sweep 2017, Buffalo Niagara RIVERKEEPER, Apr. 2017
- Volunteer, SUNY Buffalo Computer Science Education Week, Dec. 2016
- Participant, UB Hacking, SUNY Buffalo, Nov. 2016
- On-campus Intern (Web Developer), SUNY Buffalo Career Service Office, Spring 2016