RUXIN (DAISY) WANG

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EDUCATION

Southern Methodist University, Dallas, TX, USA　　　　　*Aug. 2024 - Present*
PhD. in Computer Science (CS)

Louisiana State University, Baton Rouge, LA, USA　　　　　*Aug. 2020 - Aug. 2024*
PhD. in Computer Science (CS)

Syracuse University, Syracuse, NY, USA　　　　　*Aug. 2017 – May. 2019*
M.S. in Computer Engineering (CE)

Northeast Forestry University, Harbin, China　　　　　*Aug. 2013 – May. 2017*
B.S. in Electrical Engineering (EE)

EXPERIENCE

Wyze Labs, *AI Scientist Internship*　　　　　*Jun. 2024 - Aug. 2024*
Leveraging state-of-the-art Vision Language Models (VLMs) and Large Language Models (LLMs) for video anomaly event detection.

HSBC Bank (China) Company Limited, *Software Engineer*　　　　　*Aug. 2019 - Jul. 2020*
Software development and testing, maintaining and Enhancing Financial Transaction Platform.

RESEARCH INTERESTS

Mobile Sensing and Computing, Cybersecurity and Privacy, Human-Computer Interaction (HCI), AI in Healthcare and AI for Security.

PUBLICATIONS

[**ACM WiSec '24**] **R. Wang**, K. Madden, L. Huang, C. Wang, "Enhancing QR Code System Security by Verifying the Scanner's Gripping Hand Biometric." *Proceedings of the 17th ACM Conference on Security and Privacy in Wireless and Mobile Networks*, 2024.

[**IEEE TVT '24**] **R. Wang**, L. Huang, and C. Wang, "Fast Detection of Handheld Phone-distracted Driving by Sensing the Driver's Hand-grip." *IEEE Transactions on Vehicular Technology*, 2024.

[**IEEE S&P '23**] **R. Wang**, L. Huang, and C. Wang, "Low-effort VR Headset User Authentication Using Head-reverberated Sounds with Replay Resistance." in *Proceedings of the 44th IEEE Symposium on Security and Privacy (IEEE S&P)*, 2023.

[**XULA '23**] GV. Gonzalez, C. Wang, **R. Wang** and TT. Tseng, "Extended reality and binge eating behaviors among minorities." in *Proceeding of the 16th Health Disparities Conference (XULA)*, 2023

[**ACM CHI '22**] **R. Wang**, K. Madden, C. Wang, "Low-effort User Authentication for Kiosk Systems based on Smartphone User's Gripping Hand Geometry." *Late Breaking Work of the 2022 CHI Conference on Human Factors in Computing Systems*, 2022.

[**IEEE MASS '21**] **R. Wang**, L. Huang, and C. Wang, "Preventing handheld phone distraction for drivers by sensing the gripping hand," in *Proceedings of the 18th IEEE International Conference on Mobile Ad-hoc and Sensor Systems (IEEE MASS)*, 2021.

SELECTED PROJECTS

Maintaining and Enhancing Financial Transaction Platform, HSBC *08/2019 – 07/2020*
Description: Software Developing and Testing.

- Developed a tool in JAVA that automatically scans a stream of zip files and picks out the useful ones at five-second intervals. The tool significantly improves efficiency, as these tasks were traditionally performed manually.

- Maintained and enhanced the internal financial transaction platform in SQL. The upgraded system now offers businesses the ability to instantly generate customizable reports and export them in multiple formats, including PDF, Excel, and Word.

- Conducted comprehensive functional testing to validate end-to-end user workflows. Authored detailed test plans and cases and documented bug reports to provide a transparent and reproducible testing process.

Travel Experiences Management Website, LSU *08/2022 – 11/2022*
Description: To provide an easy way to store and manage users' travel experiences (e.g., files, photos).

- Designed a 3-tier web application architecture using Amazon Web Services (AWS). The first tier consisted of static content created with HTML5, CSS, and JavaScript, which was stored on an Amazon EC2 instance running an Apache web server. The second tier featured seven Java servlets deployed on another EC2 instance that ran a Tomcat server. The third tier housed a MySQL database deployed on a separate EC2 instance.

- The Apache server handled user requests and routed them to Tomcat, which connected to MySQL via Java Database Connectivity (JDBC).

Reinforcement Learning in Car Racing Games for Self-Driving, LSU *08/2021 – 05/2021*
Description: To develop a race car AI using reinforcement learning algorithms.

- Developed a car racing game in Unity, designed Performance, Environment, Actuators, Sensors (PEAS) problem specifications, and created a bridge to facilitate communication between reinforcement learning models in Python and the game environment in C#.

- Implemented four types of reinforcement learning algorithms such as Proximal Policy Optimization (PPO), NeuroEvolution of Augmenting Topologies (NEAT), Deep Deterministic Policy Gradient (DDPG), and Deep Q-Learning Network (DQN).

Remote Code Repository in C++, Syracuse University *01/2018– 05/2018*
Description: To develop a remote code repository responsible for managing source code resources (e.g. files and documents) and access the repository's functionality over a communication channel.

- Developed client-side using GUI and WPF framework enables the client to upload and download files and developed server-side using WCF framework to provide functionality like check-in, check-out, and browse files.

- Designed and implemented a NoSQL database that could support CRUD operations by using the unordered map in C++. Implemented an HTTP-style message protocol and socket-based asynchronous message-passing communication channel.

TECHNICAL STRENGTHS

Programming Language: Python, JAVA, C++, C#, MATLAB, SQL.
Deep Learning Framework: Tensorflow, Keras, Pytorch.
Software Development: Amazon Web Services (AWS), Unity, Android Application, Spring Boot, Tomcat, AngularJS, WCF/WPF, CSS, JavaScript, HTML.

HONORS AND AWARDS

CPS Rising Stars 2024 *05/2024*

Symposium Meritorious Awards at LSU's 5th EECS Graduate Student Research *04/2024*

Travel Grant at the 44th IEEE Symposium on Security and Privacy (S&P23) *Apr. 2023*

Third Place Award at the 1st LSU's Graduate Research Conference *Apr. 2023*

Symposium Meritorious Awards at LSU's 4th EECS Graduate Student Research *May. 2022*

N2Women Fellowship & Travel Grant at the 27th Annual International Conference On Mobile Computing And Networking (ACM MobiCom21) *Nov. 2021*

Student Graduated with Honors at Northeast Forestry University *May. 2017*