

RUXIN (DAISY) WANG

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EXPERIENCE

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| Louisiana State University, Baton Rouge, LA, USA
<i>PhD. in Computer Science (CS)</i> | <i>Aug. 2020 - Present</i> |
| HSBC Bank (China) Company Limited, Guang Dong, China
<i>Software Engineer</i> | <i>Aug. 2019 - Jun. 2020</i> |
| Syracuse University, Syracuse, NY, USA
<i>M.S. in Computer Engineering (CE)</i> | <i>Aug. 2017 – May. 2019</i> |
| Northeast Forestry University, Harbin, China
<i>B.S. in Electronics Engineering (EE)</i> | <i>Aug. 2013 – May. 2017</i> |

PUBLICATION

Louisiana State University, Baton Rouge, LA, USA

- 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.
- 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.
- R. Wang, L. Huang, and C. Wang, "Poster: Distracted Driving Detection By Sensing The Hand Gripping Of The Phone," in *Proceedings of The 27th Annual International Conference On Mobile Computing And Networking*, 2021.

Northeast Forestry University, Harbin, China

- R. Wang, "Tentative Analysis of Electric Automatization Integrated Application on Electrical Engineering" in *Scientific Chinese*, Sep., 2016.
- R. Wang, "Research on Artificial Intelligence Application on Electrical Engineering and Automation" in *Science and Technology Innovation Herald*, Sep., 2016.

PROJECTS

VR Device User Authentication via Skull-reverberated Sounds 05/2021 – Present

Description: To design a system allows a user to gain access by interacting with the VR device

- Developed a Unity application on VR that could simultaneously send acoustic sensing signals and record the sound via microphone.
- Derived the short-time Fourier transform of the microphone received signals to describe the user's head biometrics and implemented a CNN-based algorithm to identify the user based on the time-frequency images.

User Identification via Discriminating Gripping Hand Image 08/2020 – 12/2020

Description: To develop a system that verifies a user's identity via a holding device image

- Developed a pre-processing scheme to extract the useful hand features from holding device images by resizing, background removal, and image illumination

- Fed the post-processing image into a CNN-based algorithm to get the classification prediction, then comparing the prediction with the user ID token to verify if the user holding the phone's identity matches the user ID token presented by the smartphone.

Maintaining and enhancing financial transaction platform, HSBC, CN 08/2019 – 07/2020

Description: Software Developing and Testing.

- Designed and realized an automatic tool in JAVA — IPAS Adapter, which could detect the zip file from zip file stream every 5 seconds. Once zip files are available, zip files will be inserted into source wordlist table. And then the adapter begins to call the unzip server which resides in the IPAS Adapter to unzip the files. After unzip service returns the unzip files successfully, the adapter will create new threads to process the unzip files into database.
- Participated in the development of Global Investment Report (GIR) System. The GIR system is intended to be as configurable as possible so that the content can be fitted appropriately to a range of mandates. The flexible GIR system offers in this regard will be employed as much as possible so that end-user teams can include, exclude and configure content as required. With that GIR System, businesses could not only generate customizable reports but also export their needed reports in various types of forms immediately (e.g. PDF, Excel, Word...).

AttendU (Website in JAVA), Syracuse, NY

08/2018 – 12/2018

Description: To develop a web-based single-page application designed for users to do attendance checking.

- Implemented MVC architecture provided by Angular.JS to realize data manipulating, content displaying, data presentation and data packaging linking.
- Used Spring Boot as framework. Designed four separated processes and designed corresponded APIs in JAVA. Implemented Microservice to manage above four processes.
- Utilized MySQL as the database, translated SQL statements into JAVA methods and accommodated data into customized objects by use Mybatis.

Source Code Analyzer in C, Syracuse, NY

01/2018– 05/2018

Description: To develop a software tool for code analysis, currently supporting C++/C/Java

- Implemented a client with GUI by using the WPF framework in C on the client-side.
- Designed and implemented a code analyzer which can extract all useful information from files stream and then analyze the dependence relationships.
- Implemented asynchronous message-passing communication channel by using WCF to pass HTTP-style messages. Implemented a client with GUI by using WPF framework and C.

Remote Code Repository in C++,, Syracuse, NY

01/2018– 05/2018

Description: Developed 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.

- Used several design principles in the design such as the Single Responsibility Principle, Open Close principles.
- On the client side, provides a Client program that can upload and download files by implementing a client with GUI and the WPF framework.
- On the server side, provides a Repository Server that provides functionality to check-in, check-out, and browse package, specified by NoSQL database queries.
- Designed and implemented a NoSQL database which could support CRUD operations by using the unordered map in C++ in the server-side.

- Implemented an HTTP-style message protocol and socket-based asynchronous message-passing communication channel by using WCP framework in C++.

AWARDS

- ACM MobiCom2021 Student Research Competition (SRC) semifinalists *03/2022*
- ACM MobiCom2021 Travel Grant *12/2021*
- ACM MobiCom2021 N2Women Fellowship *11/2021*

TECHNICAL STRENGTHS

Programming Languages: Python, JAVA, C++, C#, SQL

Machine Learning Frameworks: Tensorflow, Keras, Pytorch

Databases: MySQL, NoSQL, MongoDB

Web Development: SpringBoot, Spring, Angular.js, WCF/WPF, Mybatis, MAVEN, CSS, HTML