

YUE ZHANG

yyz0229@auburn.edu

425 Opelika Rd, Apt 274, Auburn, 36830

+1(334) 587-9988

EDUCATION

Doctoral of Science in Computer Science & Software Engineering, Auburn University

08/2023 - Present

GPA: 3.83/4.0

Master of Science in Information System and Computer Security, Tuskegee University

08/2012 - 07/2023

GPA: 4.0/4.0

Bachelor of Engineering in Computer Science and Technology, Anhui Jianzhu University

09/2017 - 07/2021

GPA: 3.4/4.0

PUBLICATIONS

- Pemsith Mendis, Wilson Reeves, Muhammad Ali Babar, **Yue Zhang**, and Akond Rahman, (2024), Evaluating the Quality of Open Source Ansible Playbooks: An Executability Perspective, *4th International Workshop on Software Engineering and AI for Data Quality in Cyber-Physical Systems/Internet of Things (SEA4DQ 2024)* co-located with the Foundations of Software Engineering (FSE).
- **Yue Zhang**, Justin Murphy, and Akond Rahman, (2024), *Come for Syntax, Stay for Speed, Write Secure Code: An Empirical Study of Security Weaknesses in Julia Programs*, *Empirical Software Engineering Journal (EMSE)*. Accepted.
- Akond Rahman, Anthony Skjellum, and **Yue Zhang**, (2024), An Exploratory Study of Security Vulnerabilities in Machine, *3rd International Workshop on Software Vulnerability Management (SVM 2025)*. Accepted.
- Akond Rahman, **Yue Zhang**, Fan Wu, and Hossain Shahriar, (2024), Student Perceptions of Authentic Learning to Learn White-box Testing, *Technical Symposium on Computer Science Education (SIGCSE TS)*.
- **Yue Zhang**, Rachel Meredith, Wilson Reeves, Julia Coriolano, Ali Babar, and Akond Rahman, (2024), Does Generative AI Generate Smells Related to Container Orchestration?: An Exploratory Study with Kubernetes Manifests, *21st International Conference on Mining Software Repositories 2024*
- Akond Rahman, Dibyendu Brinto Bose, **Yue Zhang**, and Rahul Pandita, (2024), An Empirical Study of Task Infections in Ansible Scripts, *Empirical Software Engineering Journal*.
- **Yue Zhang**, Muktadir Rahman, Fan Wu and Akond Rahman, (2023), Quality Assurance for Infrastructure Orchestrators: Emerging Results from Ansible, *2nd International Workshop on the Foundations of Infrastructure Specification and Testing (FIST 2023)*, L'Aquila, Italy, March 13th 2023.
- **Yue Zhang**, Fan Wu and Akond Rahman, (2023), Practitioner Perceptions of Ansible Test Smells, *2nd International Workshop on the Foundations of Infrastructure Specification and Testing (FIST 2023)*, L'Aquila, Italy, March 13th 2023.

AWARDS

- **100+ Women Strong Outstanding Departmental Annual Graduate Award**, Auburn University, Auburn, AL 03/2024
- **2023 Gavin Graduate Student Fellow**, Auburn University, Auburn, AL 04/2023
- **Second-class scholarship** (Top of 5%), Anhui Jianzhu University, China 11/2019
- **Excellent Minister of Student Union**, Anhui Jianzhu University, China 10/2019
- **Outstanding individual in recreational and sports activities**, Anhui Jianzhu University, China 10/2019

- **Third-Class Scholarship** (Top of 10%), Anhui Jianzhu University, China 11/2018
- **The Second Prize in the Robot Solo Dance Competition**, Anhui, China 06/2018

OPEN SOURCE CONTRIBUTIONS

1. Discovered and reported 19 previously unknown bugs across 15 Kubernetes GitHub repositories, all confirmed and fixed by maintainers. [URL](#)

TECHNICAL REPORTS

1. **Yue Zhang**, 'Developing College Room Information Management Web Application', 12/2022. [URL](#)
2. **Yue Zhang**, 'Refine Wireframes and Database Design for The College Room Information Management Web Application', 10/2022. [URL](#)
3. **Yue Zhang**, 'Design Wireframes for A College Room Information Management Web Application', 08/2022. [URL](#)
4. **Yue Zhang**, 'Survey of RFID Hardware and Visually Impaired Friendly Software', 06/2022. [URL](#)
5. **Yue Zhang**, 'Developing Data Visualization Website Using ReactJS', 04/2022. [URL](#)
6. **Yue Zhang**, 'Classifying Pokemon Datasets in R Using Machine Learning', 12/2021. [URL](#)

TECHNICAL PRESENTATIONS

- 'Overview of Self-Tracking App Selection', Department of Computer Science, Tuskegee University, Oct 25, 2022. [URL](#)
- 'Introduction to MIT APP - Procedures', Department of Computer Science, Tuskegee University, July 18 - July 19, 2022. [URL](#)
- 'Introduction to MIT APP - Working With Lists', Department of Computer Science, Tuskegee University, July 20, 2022. [URL](#)
- 'Introduction to MIT APP - Games and Animations', Department of Computer Science, Tuskegee University, July 21, 2022. [URL](#)
- 'Introduction to MIT APP - Multiple Screens and Debugging Techniques', Department of Computer Science, Tuskegee University, July 22, 2022. [URL](#)
- 'Introduction to Apache Spark - An Open-source Unified Analytics Engine', Department of Computer Science, Tuskegee University, Jan 20, 2022. [URL](#)

RESEARCH EXPERIENCE

Research Assistant, Auburn University Configuration Bugs in Kubernetes

08/2023 - Present

- Adviser: Dr. Akond Ashfaq Ur Rahman
- Investigating configuration defects in Kubernetes to enhance system reliability and security. Design and development of an automated tool to detect misconfigurations in Kubernetes YAML files, with the aim of reducing deployment failures and minimizing security risks.
- Technologies: Static analysis, Kubernetes, Python.

Research Assistant, Tuskegee University An RFID Indoor Guidance System for the visually impaired

05/2022 - 07/2023

- Adviser: Dr. Yasmeen Rawajfih
- Researched and prototyped an assistive system to convert visual data into auditory cues using RFID technology. Evaluated optimal RFID tags for indoor navigation and developed a mobile app and web interface for real-time room information management.
- Technologies: RFID, Android, Web Development.

TEACHING EXPERIENCE

Teaching Assistant, Auburn University
COMP 3500: Introduction to Operating Systems.

08/2024 - Present

- Conduct office hours, assist students with assignments, and evaluate submissions.

COMP 6710: Software Quality Assurance.

08/2023 - 04/2024

- Provided academic support, graded assignments, and guided students in testing methodologies.

Teaching Assistant, Tuskegee University
CSCI-380: Intermediate Cybersecurity.

01/2023 - 04/2023

- Led lectures, facilitated labs, and mentored students in security principles and tools.

CSCI-100: Introduction to Computer Concepts and Applications.

08/2021 - 04/2023

- Delivered mini-lectures, assisted with assignments, and managed grading for 50+ students.

ITEST Program (2022 STEM Summer Academy)

07/06/2022 - 07/29/2022

- Advised high school students on group projects and co-developed course materials.

JROTC Cyber Academy pilot program

06/12/2022 - 06/25/2022

- Trained undergraduates in cybersecurity fundamentals and project execution.

MENTORSHIP EXPERIENCE

Mentor for Prospective PhD Student

12/2024

- Provided mentorship to a prospective PhD applicant to Computer Science & Software Engineering, focusing on academic and professional development.

COURSES

Big Data Analytics, Data Analytics, Statistic with R, Data Mining & Machine Learning, Information Security, Java Language Programming A, Data Structure and Algorithm C, Development of Android System, Data Base System, Software Engineering, Computer Graphics, Computer Organization and Architecture

SKILLS

Language	R, Python, Java Script, C, SQL, ReactJS, Flutter
Technical	Microsoft Office, Tableau, WEKA
Skill	Statistics data modeling

PROJECTS

Visualize Data Website

- Used ReactJS to develop a website that converts CSV file data into different types of charts such as line and percentage charts.
- Users can visualize data and get data information intuitively through simple operations.

Pokémon Dataset Analysis

- Used ggplot2 to create graphs to reflect the connection between different feature values of the Pokémon dataset, through these plots to find out which features can determine whether a Pokémon is legendary.
- Used R and different machine learning methods to train models to predict whether a Pokémon will become a legend.
- The players use the trained model to predict whether the captured Pokémon can become a legend, and decide whether to continue feeding the Pokémon base on the prediction results.

Campus Browser App

- Used Android Studio to design the front-end interface of the campus browser; be responsible for optimizing and beautifying the interface.
- Analyzed the correspondence between entities, and use SQL to create entity tables to store and manage information.
- By using this APP, students can more conveniently and quickly inquire about the school's latest notices, school activities, school part-time recruitment and other information.

Online Examination System

- Completed all student interface design with Java Web. Designed and implemented examination module by using Java to support automatic submission function, test paper correction function and problem collection function.
- Students learn about their own learning by completing exams issued by their teachers, and consolidate knowledge by collecting wrong questions.

EXTRA-CURRICULAR ACTIVITIES

Leadership

Student Union Vice President, Anhui Jianzhu University, China

09/2018 - 09/2019

- Responsible for the overall work of the Student Union; supervised and guided the activities undertaken by the corresponding departments of the Student Union.
- Managed all departments and members of the student union; discovered and resolved existing problems and work conflicts; strengthened the cohesion of the student union, and improved the effective of the work.

Robot Lab Member, Anhui Jianzhu University, China

04/2018 - 12/2018

- Gained the knowledge of manufacturing and assembling various of robots; participated in all kinds of provincial and national robot competitions and earned recognition.

Young Volunteers Association Officer, Anhui Jianzhu University, China

03/2018 - 07/2018

- Collaborated team members to participate in volunteer activities; designed Mother's Day special event to help 25 single mothers received kindness from community, which pull at the members' heartstrings about mutual support.

Volunteer Experience

Mental Health Advisor, Anhui Jianzhu University, China

- Organized periodic meeting to learn the basic mental health knowledge; popularized the background of mental health to enhance people's consciousness of its importance.
- Advocated monthly contest with reflecting the mental health status to prevent and intervene the mental health crisis.

Marathon Volunteer, Hefei, China

- Taped off the responsible marathon route and prevented the audience from entering to ensure the safety of people.
- Provided medicine and treatment for injured athletes and reported the emergencies to organizer.

Environmental Volunteer, Hefei, China

- Cleaned the street and picked up trash; proposed the reset of trash can to maximize its function and minimize the mess of public.