

# ZILIANG ZHANG

## CONTACT

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## EDUCATION

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- **PhD Computer Science.** The University of Alabama. Fall 2019 – Summer 2025 (expected)
- **MSc Software Engineering.** The University of Texas at Dallas. 2018
- **BSc Software Engineering.** Sun Yat-Sen University, Guangdong, China. 2015

## SKILLS

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- **Specialty:** Low-code development, Test Automation, End-User Software Comprehension
- **Programming Languages:** Python, C/C++, Java, JavaScript, SQL, HTML/CSS
- **Tools:** Selenium, pytest, Bubble.io, Microsoft Power Apps, GitHub Actions, AWS, Azure

## PUBLICATIONS AND POSTERS

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- **Ziliang Zhang**, Jeff Gray, and Huseyin Ergin. "Template Comprehension in a Low-code Development Platform." (Under review)
- **Ziliang Zhang**, and Jeff Gray. "Test Case Expression in a Low-Code Development Platform." In Proceedings of the 2024 ACM Southeast Conference, pp. 193-198. 2024.
- Bichu Li, and **Ziliang Zhang**. "Research on the Cooperative Behavior of Academic Papers Published by Chinese Educational Scholars Based on Complex Networks." World Journal of Education 9, no. 1 (2019), pp. 118-124.
- **Ziliang Zhang**. "Enhancing Low-Code Development Platforms for Error Detection and Test Expression by End-Users," *2023 ACM MID-Southeast Conference*, 2023
- **Ziliang Zhang**, and Jeff Gray. "Enhanced Test Case Expression for End-User Developers." In Proceedings of the *2024 ACM Southeast Conference*, pp. 317-318. 2024.

## EXPERIENCE

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### · RESEARCH EXPERIENCE

- **"Pathways for Alabama Computer Science" (PACS).** *US Department of Education, Education Innovation and Research (EIR) Program, \$3.9M.* 2021 - present
- **NSF ITEST.** *Peer-learning communities to develop rural, African American girls' computer science knowledge and career awareness.* 2022 - 2023
- **NSF INCLUDES.** *The Alabama Alliance for an Inclusive Middle Grades Computer Science Preparation through Makerspaces in the Alabama Black Belt Region.* Summer 2020

### · TEACHING EXPERIENCE

- Teaching Assistant, CS 495: Capstone Projects. Fall 2020, Spring 2021
  - Mentored 25+ undergraduate teams in designing and implementing full-stack software solutions using Agile methodologies.
  - Developed grading rubrics and provided weekly feedback to improve project quality, resulting in a 30% increase in average student scores compared to prior semesters.
  - Facilitated workshops on version control (Git), RESTful API design, and cloud deployment (AWS), directly adapted into the department's core curriculum.

## PROJECTS

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- **Enhancing Software Comprehension in Low-Code Platforms.** 08/2024 - present

- Developed methodologies to improve end-user developers' understanding of reusable templates in low-code/no-code platforms.
- Designed automated traversal scripts and real-time monitoring tools to visualize data flows and dependencies.
- **Test Automation Framework for Low-Code Platforms.** 05/2023 – 08/2024
  - Designed and implemented an automated testing framework for low-code/no-code platforms.
  - Developed Python-based scripts integrated with Selenium and Playwright to simulate user interactions and automate end-to-end testing of LC/NC applications.
- **Computer Science Mentoring Center (CSMC) Website.** 01/2018 – 05/2018
  - Built and deployed a mentorship matching platform using AngularJS, Node.js and MongoDB, connecting UT Dallas students with industry professionals.
  - Integrated OAuth 2.0 for secure logins and Slack API for real-time communication, reducing mentor-mentee pairing time by 40%.
- **Smart Museum (Guangzhou Museum Collaboration).** 08/2015 – 07/2016
  - Designed and implemented an interactive 3D virtual museum using three.js and Babylon.js, enabling users to explore exhibits remotely with real-time rendering and dynamic lighting effects.
  - Integrated user navigation controls and interactive hotspots, increasing average visitor engagement time during pilot testing.
- **China Mobile Harassment Call Analysis, Neusoft Corporation.** 06/2014 – 09/2014
  - Developed machine learning models (Python, Scikit-learn) to classify and block spam calls, achieving 92% accuracy in real-time filtering.
  - Reduced customer complaints within 6 months of deployment.

## · K-12 OUTREACH SERVICES

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- **AP CS Principles, Alabama State Department of Education.** 2021 - present
  - Trained 50+ K-12 teachers to deliver AP CSP content, improving statewide pass rates by 20%.
  - Developed interactive coding modules (Block-Based Languages/Database Management) adopted by the Alabama State Department of Education for teachers training.
- **Administrator and Head Judge, Annual Alabama Robotics Contest.** 2023 - 2025
  - Designed and deployed competition topics and venues to accommodate 60+ student teams.
  - Introduced a Python-based scoring automation tool, reducing human error and enhancing transparency.

## AWARDS

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- **First Place, Graduate Student Paper Presentation Competition, 2023 ACM MID-Southeast Conference, Gatlinburg, TN.** 11/2023
- **Three Minute Thesis (3MT) Finalist, The University of Alabama.** 11/2022
- **Champion of Debating Championship, Sun Yat-Sen University.** 12/2013, 12/2014
- **Third Prize of Software Innovation Competition, Sun Yat-Sen University.** 11/2011