

Zhiju (Zack) Yang

Curriculum Vitae

Assistant Professor, PhD | Department of Computer Science

Seattle University | Seattle, WA

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Education

PhD in Computer Science, Cybersecurity

Aug. 2016 – Dec. 2021

Colorado School of Mines, Golden, CO, USA

Advisor: Chuan Yue

MS in Computer Science

Sept. 2013 – June 2016

Ocean University of China, Qingdao, China

BS in Computer Science

Sept. 2009 – June 2013

Shandong University of Science and Technology, Shandong, China

Academic Appointment and Research

Assistant Professor, Seattle University

Sept. 2021 – Present

Tenure-track appointment, Department of Computer Science.

- Develop an independent research program in web security and privacy, blockchain/Web3 security, and AI-assisted vulnerability detection.
- Design and evaluate LLM-based methods for smart-contract auditing and investigate gaps between automated and human security audits.
- Conduct empirical studies of web tracking and website security/privacy practices; collaborate with academic and industry researchers.
- Mentor undergraduate and graduate students in cybersecurity research.

Industry Research Experience

Data Science Intern, Appen

Feb. 2020 – May 2020

WtaGraph: Web Tracking and Advertising Detection using Graph Neural Networks

- Proposed a graph-neural-network framework for detecting web tracking and advertising.
- Achieved state-of-the-art performance in detecting web tracking and advertising traffic in the wild.

Cybersecurity Intern, Accenture Research Lab

Jan. 2019 – May 2019

Web Application Debloating and Automated Content Security Policy Implementation

- Proposed and implemented a function-level JavaScript code-debloating approach.
- Crawled one million sites and analyzed Content Security Policy implementation, coverage, and effectiveness.
- Built an Apache web-server proxy that automatically deploys Content Security Policy to requested webpages and HTTP headers.

Publications

An asterisk (*) marks a Seattle University student co-author.

Accepted Papers

Zhiju Yang. Characterizing Security and Privacy Practices of News Websites. *19th International Symposium on Foundations and Practice of Security (FPS 2026)*, Springer Lecture Notes in Computer Science, to appear. Accepted as a long paper.

Zhiju Yang, Yue Xue, and Xiecongyou Yang. What AI Auditors Miss: Diagnosing and Closing the Gap Between AI and Human Web3 Security Audits. *19th International Symposium on Foundations and Practice of Security (FPS 2026)*, Springer Lecture Notes in Computer Science, to appear. Accepted as a long paper.

Published Papers

Yiwen Qin, Xiaoshuai Zhang, Haipeng Qu, Wenwen Tang, Zhiwen Zheng, Jin Liu, **Zhiju Yang**, and Xingru Huang. HMareN: Hierarchical Malicious Attack Representation Embedding Network for Web Attack Detection. *IEEE International Conference on Communications (ICC)*, 2026, pp. 1–6. DOI: 10.1109/ICC59461.2026.11588211

Zhiju Yang, Xiaoshuai Zhang, and Xin Zhao. AuditCopilot: An End-to-End LLM-Based Framework for Automated Vulnerability Detection in Web3. *International Conference on Blockchain Technology and Applications (ICBTA)*, Springer Lecture Notes in Networks and Systems, 2025, pp. 47–68. DOI: 10.1007/978-3-032-22088-2_4

Zhiju Yang, Gaoyuan Man, and Songqing Yue. Automated Smart Contract Vulnerability Detection using Fine-tuned Large Language Models. *International Conference on Blockchain Technology and Applications (ICBTA)*, ACM, 2023, pp. 19–23. DOI: 10.1145/3651655.3651658

Zhiju Yang, Gaoyuan Man, and Songqing Yue. Understanding Security Audits on Blockchain. *International Conference on Blockchain Technology and Applications (ICBTA)*, ACM, 2022, pp. 10–15. DOI: 10.1145/3581971.3581973

Zhiju Yang, Weiping Pei, Monchu Chen, and Chuan Yue. WtaGraph: Web Tracking and Advertising Detection using Graph Neural Networks. *IEEE Symposium on Security and Privacy (S&P)*, 2022, pp. 1540–1557. DOI: 10.1109/SP46214.2022.9833670

Weiping Pei, **Zhiju Yang**, Monchu Chen, and Chuan Yue. Quality Control in Crowdsourcing based on Fine-Grained Behavioral Features. *Proceedings of the ACM on Human-Computer Interaction*, 5(CSCW2), 2021, pp. 1–28. DOI: 10.1145/3479586

Zhiju Yang and Chuan Yue. A Comparative Measurement Study of Web Tracking on Mobile and Desktop Environments. *Proceedings on Privacy Enhancing Technologies (PoPETs)*, 2020(2), pp. 24–44. DOI: 10.2478/popets-2020-0016

Zhiju Yang, Rui Zhao, and Chuan Yue. Effective Mobile Web User Fingerprinting via Motion Sensors. *IEEE Conference on Trust, Security, and Privacy in Computing and Communications (TrustCom)*, 2018, pp. 1398–1405. DOI: 10.1109/TrustCom/BigDataSE.2018.00194

Manuscripts Under Review

Xin Zhao, Rishi Munuswamy*, Sai Supraj R. Madhavapeddi*, Yash Atre*, and **Zhiju Yang**. Detecting Community Smells: A Systematic Literature Review. *Under review at the 34th IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER 2027)*.

Dissertations and Theses

Zhiju Yang. Understanding and protecting user security and privacy on the web. *PhD dissertation*, Colorado School of Mines, 2021.

Zhiju Yang. Research on Networking Troubleshooting Method Based on Software Defined Network. *MS thesis*, Ocean University of China, 2016.

Teaching Experience

Seattle University, Department of Computer Science | Fall 2021 – Present

CPSC 4710/5710 Security in Computing

Fundamental security principles with applications to operating systems, networks, databases, and web applications. Developed hands-on security exercises and Capture the Flag activities.

CPSC 5330 Big Data Analytics

Hadoop/Spark architecture and ecosystem of tools. Updated laboratory activities to use AWS EMR for cloud-based Hadoop and Spark practice.

CPSC 4510/5510 Computer Networks

Network architectures, protocols, layering, interfaces, encapsulation, Ethernet, wireless technologies, and network programming.

CPSC 1430 Programming and Problem Solving II

Continuation of programming and problem solving, including abstract data types, dynamic memory, linked lists, stacks, queues, and testing. Incorporated coding exercises and competitions.

CPSC 5070 Programming for Data Science

Fall 2026 (in progress)

Fully online, asynchronous graduate course: Python fundamentals, data structures, data manipulation, visualization, and machine learning models.

ARIN 5440 Artificial Intelligence and Cybersecurity

Winter 2027 (in development)

New course for the online Master of Science in Artificial Intelligence: AI for security and the security of AI systems; the term project builds and then attacks an LLM-based smart-contract auditor.

Capstone, Project, and Research Supervision

2021 – 2026

Advisor to five capstone teams (CPSC 4880/4890, 2021–2026) and an MSCS project team (CPSC 5810/5820, 2023–2024); supervised one graduate research student for two quarters (2024), independent study (2022), and internships (2023, 2026).

Awards and Funded Support

Junior Faculty Professional Development Grant Leave

Spring 2025

Seattle University. Awarded teaching release for professional development.

Seattle University Summer Faculty Fellowship

2023

Principal Investigator. Awarded \$7,000.

Selected Proposals Submitted

Experiential Learning for Emerging and Novel Technologies

2025

NSF ExLENT. Senior Personnel; Principal Investigator: Peter Rowan. Not funded.

Multidisciplinary Generative AI Research Award

2024

Seattle University. Principal Investigator. Not funded.

CRII SaTC RUI Strengthening Web Privacy with Deep Learning and LLMs

2023

NSF. Principal Investigator. Proposal title: “CRII: SaTC: RUI: Strengthening Web Privacy with Deep Learning and Large Language Models.” Not funded.

Selected Presentations and Talks

The Role of AI — What Happens Next?

Nov. 2025

With Burkhard Englert. Colloquium for Information Systems Security Education (CISSE 2025).

Professional Reviewing

Frontiers of Computer Science	2026
CCSC Northwestern Regional Conference	2024, 2025
Blockchain (ELSP)	2025
Journal of Systems Architecture	2023, 2025, 2026
Dependable Systems and Networks (DSN)	2020
ACM Conference on Data and Application Security and Privacy (CODASPY)	2019
Computer Networks (The International Journal of Computer and Telecommunications Networking)	2018

University and Department Service

Member, MSCS Calendar Unification Committee Seattle University, Department of Computer Science.	2025, 2026
Faculty Mentor Mentored a new faculty colleague Diala Ezzeddine in the Department of Computer Science.	2025, 2026
Member, Online MS in Cybersecurity Leadership Committee Albers School of Business and Economics. Contributed security-education expertise to course lists, topics, and learning goals for the proposed program.	2024
Member, Online MS in Cybersecurity Engineering Committee College of Science and Engineering. Contributed to course lists, topics, and learning goals for the proposed program.	2024
Member, Tenure-Track Faculty Search Committee Reviewed applications and participated in candidate evaluation, interviews, and hiring discussions.	2023–2024
MSCS Admissions Application Reviewer Reviewed graduate applications and assessed applicants' preparation for the program.	2023–Present
University Representative, National Cyber Director Discussion One of three Seattle University representatives at the Seattle Federal Executive Board's senior leaders' discussion with the White House National Cyber Director and the Director of the U.S. Office of Personnel Management; contributed an educator's perspective on aligning cybersecurity education with government workforce needs.	2023
Undergraduate Academic Advisor Academic advisor to undergraduate Computer Science students: 14 advisees in fall 2022, more than 30 in 2023–2024, and 13 currently. Regular meetings on course planning, study abroad, graduate study, job preparation, and research involvement.	2022–Present
Member, Non-Tenure-Track Faculty Search Committee Reviewed applications and participated in candidate selection for onsite interviews.	2022–2023
Faculty Volunteer, CS Behavioral Interview Workshop Shared interview experience and preparation materials with students.	2022–2023
Faculty Candidate Interviewer Interviewed tenure-track candidates, attended instructor teaching demonstrations, and provided candidate feedback.	2021–2023
Faculty Referee, ACM Personal Projects Competition Reviewed more than a dozen student project submissions and provided written feedback to each group.	2021