Rui (Gina) Bai

ASSISTANT PROFESSOR OF THE PRACTICE

Department of Computer Science · Vanderbilt University

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Education

North Carolina State University *Raleigh, NC*
PH.D. IN COMPUTER SCIENCE *June 2022*
- Advisor: Kathryn T. Stolee
- Dissertation: Improving Student Testing Practices through a Lightweight Checklist Intervention
- Committee: Kathryn Stolee (Chair), Sarah Heckman, Thomas Price, Shiyan Jiang, Susan Fisk (External)

Wake Forest University *Winston-Salem, NC*
B.S. IN COMPUTER SCIENCE, MINOR IN MATHEMATICS *May 2016*
- Magna Cum Laude

Employment History

Vanderbilt University *Nashville, TN*
ASSISTANT PROFESSOR OF THE PRACTICE *Fall 2022 - Present*

North Carolina State University *Raleigh, NC*
GRADUATE RESEARCH ASSISTANT (SUPERVISED BY DR. KATHRYN T. STOLEE) *Fall 2016 - Summer 2022*
INSTRUCTOR *Summer 2020, 2021*
GRADUATE TEACHING ASSISTANT *Fall 2017, 2020*

Mei & Mark LLP *Washington, DC*
WEB SUPPORT SPECIALIST (VOLUNTEER) *Dec. 2016 - May 2021*

Wake Forest University *Winston-Salem, NC*
UNDERGRADUATE TEACHING ASSISTANT *Spring 2015*
SUMMER RESEARCH FELLOW (SUPERVISED BY DR. PAÚL PAUCA) *Summer 2014*

Teaching

TEACHING EXPERIENCE

Vanderbilt University *Nashville, TN*
INSTRUCTOR *Fall 2022 - Present*
- **CS 1101: Programming and Problem Solving - Java**, 3 credit, undergraduate core course
  - Course Coordinator: Fall 2023
  - Developed and adapted lecture materials; managed 25+ undergraduate teaching assistants
  - Designed and introduced recitation sections; supervised the graduate and undergraduate recitation leaders
  - Provided office hours and student meetings; provided assistance to students via emails and piazza posts
  - Semesters Taught/Teaching: Fall 2023 (138 students), Spring 2023 (162 students), Fall 2022 (169 students)
- **CS 2201: Program Design and Data Structures - Java**, 3 credit, undergraduate core course
  - Assisted in course redesign; developed and adapted lecture materials
  - Provided office hours and student meetings; provided assistance to students via emails and piazza posts
  - Semesters Taught/Teaching: Fall 2023 (26 students)

North Carolina State University *Raleigh, NC*
INSTRUCTOR *Summer 2020, 2021*
- **CSC 116: Introduction to Computing - Java**, 3 credit, undergraduate core course, Summer 2021, 35 students
  - Flipped classroom; delivered lectures and supervised in-class labs synchronously online via Zoom
- **CSC 226: Discrete Mathematics for Computer Scientists**, 3 credit, undergraduate core course, Summer 2020, 21 students
  - Delivered lectures synchronously online via Zoom

Graduate Teaching Assistant *Fall 2017, 2020*
- **CSC 712/591: Software Testing**, 3 credit, graduate elective course (for Ph.D. and M.S. students), Fall 2020, 38 students
- **CSC 216: Programming Concepts - Java**, 4 credit, undergraduate core course, Fall 2017, 200+ students (25 in lab)

Wake Forest University *Winston-Salem, NC*
Undergraduate Teaching Assistant & Student Tutor *Fall 2013 – Spring 2016*
- Undergraduate TA: **CSC 101: Overview of Computer Science**, 3 credit, undergraduate course for non-CS majors/minors
- Tutor: Conducted one-on-one and group tutoring sessions on Computer Science, Mathematics, and Mandarin Chinese

Professional Development

2023 **CRA-WP**, Career Mentoring Workshop (Early-Career)
2023 **Vanderbilt Center for Teaching**, Course Design Institute on Inclusive Teaching

Research Grants

Improving Software Testing Education through Lightweight Explicit Testing Strategies and Feedback
Start - End Date: TBD Subcontract: National Science Foundation Award **#2141923**
Amount: TBD - Under processing

Publications [Peer-Reviewed]

* denotes papers currently under review.

Journal Articles

Fair Enough: Searching for Sufficient Measures of Fairness *TOSEM 2023*

Suvodeep Majumder, Joymallya Chakraborty, **Gina R. Bai**, Kathryn T. Stolee, Tim Menzies.
- ACM Transactions on Software Engineering and Methodology

Full Conference Papers

Does ChatGPT Help With Introductory Programming? An Experiment of Students Using ChatGPT in CS1* *SIGCSE TS 2024**

Hanlin Chen, Yuankai Xue, **Gina R. Bai**, Robert Tairas, Yu Huang
- ACM Special Interest Group on Computer Science Education

An Experience Report on Introducing Explicit Strategies into Testing Checklists for Advanced Beginners *ITiCSE 2023*

Gina R. Bai, Sandeep Sthapit, Sarah Heckman, Thomas W. Price, Kathryn T. Stolee
- ACM conference on Innovation and Technology in Computer Science Education

Check It Off: Exploring the Impact of a Checklist Intervention on the Quality of Student-written Unit Tests *ITiCSE 2022*

Gina R. Bai, Kai Presler-Marshall, Thomas W. Price, Kathryn T. Stolee.
- ACM Conference on Innovation and Technology in Computer Science Education

How Students Unit Test: Perceptions, Practices, and Pitfalls *ITiCSE 2021*

Gina R. Bai, Justin Smith, Kathryn T. Stolee.
- ACM Conference on Innovation and Technology in Computer Science Education

How Graduate Computing Students Search When Using an Unfamiliar Programming Language *ICPC 2020*

Gina R. Bai, Joshua Kayani, Kathryn T. Stolee.
- IEEE/ACM International Conference on Program Comprehension

Exploring Tools and Strategies Used During Regular Expression Composition Tasks *ICPC 2019*

Gina R. Bai, Brian Clee, Nischal Shrestha, Carl Chapman, Cimone Wright, Kathryn T. Stolee.
- IEEE/ACM International Conference on Program Comprehension

Investigating the Effects of Gender Bias on GitHub *ICSE 2019*

Nasif Imtiaz, Justin Middleton, Joymallya Chakraborty, Neill Robson, **Gina R. Bai**, Emerson Murphy-Hill.
- IEEE/ACM International Conference on Software Engineering

Exploring Regular Expression Evolution *SANER 2019*

Pᴇɪᴘᴇɪ Wᴀɴɢ, **Gɪɴᴀ R. Bᴀɪ**, Kᴀᴛʜʀʏɴ T. Sᴛᴏʟᴇᴇ.
- IEEE International Conference on Software Analysis, Evolution and Reengineering

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Is Assertion Roulette still a test smell? An experiment from the perspective of testing education *VL/HCC 2022*

Gɪɴᴀ R. Bᴀɪ, Kᴀɪ Pʀᴇsʟᴇʀ-Mᴀʀsʜᴀʟʟ, Sᴜsᴀɴ R. Fɪsᴋ, Kᴀᴛʜʀʏɴ T. Sᴛᴏʟᴇᴇ.
- IEEE Symposium on Visual Languages and Human-Centric Computing

Improving Students' Testing Practices *ICSE Doc Sym 2020*

Gɪɴᴀ R. Bᴀɪ.
- IEEE/ACM International Conference on Software Engineering - Doctoral Symposium

Invited Talks & Panels

Speaker	*How novice testers perceive and perform unit testing?* Never Work in Theory (NWiT), April 25-26, 2023
Panelist	Vanderbilt Honor Council Academic Integrity Week Panel, March 1, 2023

Professional Service

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2023-pres	**Academic Advisor**, School of Engineering, 23 assigned student advisees	*Vanderbilt*
2023-pres	**Faculty Advisor**, Kappa Theta Pi Student Chapter	*Vanderbilt*
2022-pres	**Member**, Recitation Committee	*Vanderbilt*
2017-20	**Graduate Relations Chair/Member**, NCSU-ACM-W (Women in Computer Science)	*NC State*

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2023	**Program Committee**, Workshop on Advances in Human-Centric Experiments in Software Engineering (HUMAN' 24). Co-located with SANER 2024.	
2023	**Reviewer**, ACM Special Interest Group on Computer Science Education (SIGCSE' 24)	
2023	**Reviewer**, ACM Conference on Innovation and Technology in Computer Science Education (ITiCSE' 23)	
2023	**Member**, AP CSA National Advisory Board	*College Board*
2022	**Reviewer**, ACM Special Interest Group on Computer Science Education (SIGCSE' 23)	
2022	**Invited Manuscript Reviewer**, IEEE Transactions on Learning Technologies (TLT' 22)	

Honors & Awards

2021	**Graduate Merit Award Recipient**, College of Engineering, North Carolina State University
2018	**Grace Hopper Travel Scholarship Recipient**, NCSU-ACM-W (Women in Computer Science)
2016-17	**Graduate Research Award Recipient**, College of Engineering, North Carolina State University
2014	**Research Fellowship Recipient**, Wake Forest University

Miscellaneous

Language	English (fluent), Mandarin Chinese (fluent)
Honor Society	Upsilon Phi Epsilon (International Honor Societies for the Computing and Information Disciplines, invited 2015)