

# Benyamin T. Tabarsi

[braghiz@ncsu.edu](mailto:braghiz@ncsu.edu) ❖ (984) 330-0340 ❖ Raleigh, NC ❖ [Google Scholar](#)

Website: [benyamintabarsi.com](http://benyamintabarsi.com) ❖ [LinkedIn](#)

---

## EDUCATION

### North Carolina State University

*Ph.D. in Computer Science*

- Advisor: Dr. Tiffany Barnes

Expected May 2026

Raleigh, NC

### Science and Research Branch of Azad University

*Master of Computer Software Engineering*

Aug 2019

Tehran, Iran

### University of Mazanadran

*Bachelor of Information Technology Engineering*

Aug 2016

Babolsar, Iran

---

## RESEARCH EXPERIENCE

### Graduate Research Assistant, *Game2Learn Lab at North Carolina State University*

May 2022 – Present

- Analyzing coding patterns of novice programmers to boost their learning experience and develop intelligent support tools
- Conducting multiple studies on Large Language Models (LLMs), including developers' usage of LLMs, co-development of a RAG-based healthcare app, and training educators on integrating ChatGPT into their classrooms

### Research Assistant, *Distributed Systems Laboratory, Azad University, Iran*

Nov 2017 – Aug 2019

- Guided students in conducting their research and led group discussions on topics concerning distributed systems, IoT, and e-healthcare

---

## TEACHING EXPERIENCE

### Instructor for Introduction to Computing Environments (E115), *North Carolina State University*

May – Aug 2023

- Administered the course by coordinating curriculum implementation, student support, and supervising teaching assistants

### Graduate Teaching Assistant, *North Carolina State University, Raleigh, NC*

Aug 2021 – May 2022

- Assisted in designing coding/written questions, grading, and office hours for “Automated Learning and Data Analysis”
- Graded assignments/exams and provided academic support during office hours for “Data Structures and Algorithms”

---

## MENTORING EXPERIENCE

### Mentor for Undergraduate Research Interns, *North Carolina State University*

May – Aug 2022 & May 2023 – Present

1. Aishwarya Radhakrishnan (*North Carolina State University, NC, Summer 2024, and Fall 2024*)
2. Michelle Jiang (*UNC Chapel Hill, NC, Summer 2024*)
3. Jonathan Hardwick (*Fayetteville Technical Community College, NC, Summer 2024*)
4. Susanna Quayle (*Fayetteville Technical Community College, NC, Summer 2024*)
5. Praneel Magapu (*North Carolina State University, NC, Summer 2024*)
6. Aditya Basarkar (*North Carolina State University, NC, Summer 2024*)
7. Lavan Aditya (*North Carolina State University, NC, Spring 2024 and Summer 2024*)
8. Shiva Gadireddy (*North Carolina State University, NC, Summer 2023, Fall 2023, and Spring 2024*)
9. Samantha Gonzalez (*Kean University, NJ, Summer 2023*)
10. Yadhira Marcos-Avila (*UNC Charlotte, NC, Summer 2023*)
11. Rachel Qualls (*University of Alabama, AL, Summer 2022*)
12. Sana Mahmoud (*North Carolina State University, NC, Summer 2022*)
13. Maggie Lin (*North Carolina State University, NC, Summer 2022*)

### Mentor for Teacher Research Interns, *North Carolina State University, Raleigh, NC*

May – Aug 2023

1. Cherri Fennel (*Durham Public Schools, NC, Summer 2023*)
2. Matthew Lococo (*Greene County School, NC, Summer 2023*)

---

## PUBLICATIONS

### 1. Jigsaw: A Visual Tool for Decomposing and Planning Programming Problems

- Heidi Reichert, **Benyamin Tabarsi**, Thomas Price, Tiffany Barnes
- In Proceedings of the 2024 IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC), 2024
- *Best Research Paper Award*

2. **Scaffolding Novices: Analyzing When and How Parsons Problems Impact Novice Programming in an Integrated Science Assignment**
  - **Benyamin Tabarsi**, Heidi Reichert, Nicholas Lytle, Veronica Catete, Tiffany Barnes
  - In Proceedings of the 2024 ACM Conference on International Computing Education Research (ICER)-Volume 1, 2024
3. **Experience Helps, but It Isn't Everything: Exploring Causes of Affective State in Novice Programmers**
  - Heidi Reichert, Sandeep Sthapit, **Benyamin T. Tabarsi**, and Ally Limke, Thomas Price, Tiffany Barnes
  - In Proceedings of the 55th ACM Technical Symposium on Computer Science Education (SIGCSE) V. 2, 2024
4. **Investigating the Impact of On-Demand Code Examples on Novices' Open-Ended Programming Experience**
  - Wengran Wang, John Bacher, Amy Isvik, Ally Limke, Sandeep Sthapit, Yang Shi, **Benyamin T. Tabarsi**, Keith Tran, Veronica Cateté, Tiffany Barnes, Chris Martens, Thomas Price
  - In Proceedings of the 2023 ACM Conference on International Computing Education Research (ICER)-Volume 1, 2023
5. **Exploring Novices' Struggle and Progress During Programming Through Data-Driven Detectors and Think-Aloud Protocols**
  - **Benyamin Tabarsi**, Heidi Reichert, Rachel Qualls, Thomas Price, Tiffany Barnes
  - In 2023 IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC), 2023
6. **Pinpoint: A record, replay, and extract system to support code comprehension and reuse**
  - Wengran Wang, Gordon Fraser, Mahesh Bobbadi, **Benyamin T. Tabarsi**, Tiffany Barnes, Chris Martens, Shuyin Jiao, Thomas Price
  - In 2022 IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC), 2022
7. **How to Catch Novice Programmers' Struggles: Detecting Moments of Struggle in Open-Ended Block-Based Programming Projects using Trace Log Data**
  - **Benyamin T. Tabarsi**, Ally Limke, Heidi Reichert, Rachel Qualls, Thomas Price, Chris Martens, Tiffany Barnes
  - In Proceedings of the 6th Educational Data Mining in Computer Science Education (CSEDM) Workshop, 2022
8. **How, when, and why do novices struggle in programming? Exploring the experiences and perceptions of common programming moments in block-based environments**
  - Heidi Reichert, Ally Limke, **Benyamin T. Tabarsi**, Thomas Price, Chris Martens, Tiffany Barnes
  - In Proceedings of the 6th Educational Data Mining in Computer Science Education (CSEDM) Workshop, 2022
9. **ROGI: Partial Computation Offloading and Resource Allocation in the Fog-Based IoT Network Towards Optimizing Latency and Power Consumption**
  - **Benyamin T. Tabarsi**, Ali Rezaee, Ali Movaghar
  - In the Journal "Cluster Computing," 2022

## HONORS AND AWARDS

---

### Best Research Paper Award in IEEE VL/HCC 2024

- For "Jigsaw: A Visual Tool for Decomposing and Planning Programming Problems"

**Ranked #1 in Cumulative GPA among the 2016 Cohort of the Master's Program in Computer Software Engineering**

## PROFESSIONAL SERVICE AND MEMBERSHIPS

---

### Reviewer

**2023 – Present**

- SIGCSE TS 2023, 2024, and 2025 (Program committee member)
- IEEE FIE 2024 (Technical program committee member)

### Invited Talks

- "MerryQuery: An AI-Powered Tool for Personalized Learning Support"
  - Presented to the students of the course "Intro to Educational Innovation & Entrepreneurship (ECI 519-601)" at NC State University in Fall 2024
- "From the Internet of Things to Fog Computing"
  - Delivered to the students of the course "Distributed Systems" at Azad University in 2018

### IEEE Student Member

**2018 & 2023 – Present**

### ACM Student Member

**2023 – Present**

### Workshop Instructor and Mentor, *North Carolina State University*

**June 2023 – Present**

- Mentored the development and co-led instruction across three iterations of workshop series for K-12 teachers on integrating ChatGPT into classroom

### Summer Camp Teacher and Curriculum Consultant, *North Carolina State University*

**July 2022**

- Led a group of 20+ high school students in a one-week block-based programming camp, focusing on games and art in Snap!