Bridget Agyare

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Education

University of Illinois Urbana-Champaign — Urbana, IL
Ph.D. in Computer Science — Aug 2024–Current
Research Advisor: Dr. Colleen Lewis

University of California, Berkeley — Berkeley, CA
B.S. in Electrical Engineering and Computer Sciences — Aug 2020–May 2024
Research Advisor: Dr. Gireeja Ranade

Research Interests

Broadening Participation in Computing, Computer Science (CS) Education

Publications

Asterisks (*) denote co-first authorship.

2. **B. Agyare***, M. Patel*, A. Matsumoto, G. Ranade. "Broadening Participation in CS Research with Scalable Undergraduate Research Mini-Projects." *IEEE Frontiers in Education Conference (FIE)*, 2025.

1. **B. Agyare**, A. Matsumoto, M. Patel, G. Ranade. "Student Feedback on Opt-in, Inclusive, Course-Integrated Study Groups." *IEEE Frontiers in Education Conference (FIE)*, 2023.

Awards

- National GEM Consortium Ph.D. Fellowship, Sponsored by IBM Research — 2024
- UC Berkeley Outstanding Graduate Student Instructor Award — 2023
- Cal Alumni Association Leadership Award for Returning Students — 2023

Work Experience

IBM T.J. Watson Research Center, *Research Software Engineering Intern* — May 2024–Aug 2024
- Integrated Mamba deep learning architecture into team codebase for optimized AI inference.
  Tools: Python, PyTorch

Microsoft, *Software Engineering Intern* — May 2023–Aug 2023
- Developed storage resiliency measures for virtual storage spaces in Windows.
  Tools: C++, WinDbg

Google, *Software Engineering Intern (STEP)* — May 2022–Aug 2022
- Built new developer features for Google's internal code reviewing tool.
  Tools: Go, SQL, HTML

Lawrence Berkeley National Laboratory, *Research Intern* — May 2021–Dec 2021
- Implemented graph algorithms for complex network analysis.
  Research Advisors: Dr. Katherine Yelick, Dr. Benjamin Brock, Dr. Giulia Guidi

Teaching

Lab Instructor at Break Through Tech AI Program — Summer 2025

- Foundations of Machine Learning
  — *Leading nine weeks of virtual instruction and course support for 60 undergraduate students.*

Guest Lecturer at UIUC Informatics — Spring 2025

- INFO 102: Little Bits to Big Ideas
  — *Gave a guest lecture on generative AI and ChatGPT.*

- **Head Teaching Assistant** at UC Berkeley EECS — Spring 2022, Fall 2022, Spring 2023
  EECS 16B: Designing Information Devices and Systems II
  — *Course covered foundational linear algebra and circuitry concepts.*
  — *Worked with professors to implement course logistics, managed a course staff of >40 TAs, and staffed office hours and online forums for course sizes of 1100, 200, and 400 students.*

Tutor at UC Berkeley EECS — Fall 2021

- EECS 16B: Designing Information Devices and Systems II
  — *Staffed office hours and maintained course software infrastructure.*

Posters

p3. **B. Agyare**, M. Patel, A. Matsumoto, and G. Ranade, "Broadening Participation in CS Research with Scalable Undergraduate Research Mini-Projects," *Proceedings of the 56th ACM Technical Symposium on Computer Science Education V. 2 (SIGCSE TS 2025)*, ACM, Pittsburgh, PA, pp. 1355–1356, 2025.

p2. M. Patel, **B. Agyare**, and G. Ranade, "Increasing Study Group Success With a Supplementary Course for Students in Gateway AI Classes," *AAAI Symposium on Increasing Diversity in AI Education and Research*, Mar. 2024.

p1. F. Ali, **B. Agyare**, G. Guidi, B. Brock, and K. Yelick, "Triangle Counting Algorithm with GraphBLAS," *LBNL Computing Sciences Summer Program Poster Session*, Aug. 2021.

Presentations and Talks

Panels, Presentations, and Public Speaking:

- **Panel Moderator**, Toward a more Equitable and Inclusive Future: Student Insights — Oct. 2024
  Hosted by the Alliance for Identity-Inclusive Computing Education
- **Student Speaker**, Joint California Summit on Generative AI — May 2024
  Hosted by UC Berkeley CDSS, Stanford HAI, and the California Governor's Office
- **Panelist**, Considering Identity & Inclusion in Computing Spaces — Jan. 2024
  Hosted by the Alliance for Identity-Inclusive Computing Education
- **Student Speaker**, Joseph T. Gier Memorial Sculpture Dedication Ceremony — Sept. 2023
  Hosted by UC Berkeley
- **Presenter**, EECS Undergraduate Student Survey Presentation: Diversity in the Department — Mar. 2023
  At UC Berkeley EECS Faculty Retreat

Talks:

- **Understanding High School Students' Experiences Learning CS in a Culturally Responsive Computing Program** — Apr. 2025
  CRA Grad Cohort for IDEALS Workshop

- **Scalable Undergraduate Research Mini-Projects in a Gateway AI Course** Mar. 2024
  AAAI Symposium on Increasing Diversity in AI Education and Research
- **Student Feedback on Opt-in, Inclusive, Course-Integrated Study Groups** Dec. 2023
  UC Berkeley, Algorithms & Computing for Education (ACE) Lab
- **Inclusive Study Group Formation At Scale** Oct. 2022, Mar. 2023
  UC Berkeley, CS 375: Teaching Techniques for Computer Science

Leadership and Outreach

- **Mentor**, Graduate Society of Women Engineers (GradSWE) Undergraduate Mentoring Program 2024–Present
- **Student Advisory Board Member**, Duke's Alliance for Identity-Inclusive Computing Education 2022–Present
- **President**, Black Engineering and Science Student Association (BESSA; UC Berkeley's NSBE Chapter) 2023–2024
  Previous: External Vice President (2022-2023), Pre-Collegiate Initiative Chair (2021-2022)
- **All About STEM Day Organizer**, BESSA Pre-Collegiate Programming Workshops Mar. 2021, Mar. 2022
  2022: Raised $20,000 to lead a robotics workshop for high school students in the Bay Area.
  2021: Helped organize and teach a virtual data science workshop for K-12 students.

Skills

- **Programming Languages:** Python (NumPy, Pandas, PyTorch), Java, C++, C, Go, SQL
- **Graduate Coursework:** Computational Social Science, Foundations of CS Education Research, Statistical Inference in Education, Broadening Participation in Computing
- **Advanced Undergraduate Coursework:** Introduction to Machine Learning; Deep Neural Networks; Efficient Algorithms and Intractable Problems; Probability and Random Processes; Optimization Models in Engineering; Principles and Techniques of Data Science; Language, Race, and Power in Education; Doing Feminist Research