

CELESTE BARNABY

curriculum vitae

celestebarnaby@gmail.com | (505) 977-2172

Education

The University of Texas at Austin

Aug. 2021 - Present

Ph.D. in Computer Science. Advised by Isil Dillig.

Wesleyan University, Middletown, CT

Sep. 2014- May 2018

B.A. in Mathematics and Computer Science.

Publications

- **Choose, Don't Label: Multiple-Choice Query Synthesis for Program Disambiguation**
Celeste Barnaby, Danny Ding, Osbert Bastani, Isil Dillig. PLDI 2026.
- **Active Learning for Neurosymbolic Program Synthesis.**
Celeste Barnaby, Jocelyn Chen, Ramya Ramalingam, Osbert Bastani, Isil Dillig. OOPSLA 2025.
- **PhotoScout: Synthesis-Powered Multi-Modal Image Search.**
Celeste Barnaby, Jocelyn Chen, Chenglong Wang, Isil Dillig. CHI 2024.
- **ImageEye: Batch Image Processing Using Program Synthesis.**
Celeste Barnaby, Jocelyn Chen, Roopsha Samanta, Isil Dillig. PLDI 2023.
- **Type-Directed Synthesis of Visualizations from Natural Language Queries.**
Jocelyn Chen, Shankara Pailoor, Celeste Barnaby, Abby Criswell, Chenglong Wang, Greg Durrett, Isil Dillig. OOPSLA 2022.
- **PLIERS: A Process that Integrates User-Centered Methods into Programming Language Design.**
Michael Coblenz, Gauri Kambhatla, Paulette Koronkevich, Jenna L. Wise, Celeste Barnaby, Joshua Sunshine, Jonathan Aldrich, and Brad A. Myers. TOCHI 2020.
- **Exempla Gratis (E.G.): Code Examples for Free**
Celeste Barnaby, Koushik Sen, Tianyi Zhang, Elena Glassman, Satish Chandra ESEC/FSE Industry Track 2020.
- **Aroma: Code Recommendation via Structural Code Search**
Sifei Luan, Di Yang, Celeste Barnaby, Koushik Sen, and Satish Chandra. OOPSLA 2019. **Distinguished Paper Award.**

Experience

Microsoft, Redmond, WA

June 2024 - Aug. 2024

Research Intern

- Leveraged multi-agent LLM systems to solve advanced data analysis problems in Excel Copilot.
- Meta**, Menlo Park, CA *Aug. 2018 - Aug. 2021*
Software Engineer
- Used machine learning techniques and data from Meta’s internal codebase to develop software tools.
- Girls Who Code**, San Francisco, CA *June 2018 - Aug. 2018*
Summer Instructor
- Taught programming fundamentals to a class of twenty students.
- Wesleyan University**, Middletown, CT *Jan. 2017 - May 2018*
Course Assistant
- Assisted with Introduction to Programming, Computer Science I, and Design of Programming Languages.
- Carnegie Mellon University**, Pittsburgh, PA *May 2017 - July 2017*
Research Fellow
- Participated in the Research Experiences for Undergraduates program at the Institute for Software Research.
 - Implemented a compiler for a blockchain-based programming language. Supervised by Jonathan Aldrich.

Honors & Awards

- **NSF Graduate Research Fellowship (GRFP)**, 2023 - 2026.
- **Phi Beta Kappa**, Wesleyan University, 2018.
- **Michael Rice Prize**, Wesleyan University, 2018 – awarded annually to a senior for excellence in Computer Science.

Service

- Graduate Representative Association, UT Austin** *Sep. 2022 - May 2024*
Member
- Planned and organized social and networking events for the Computer Science department’s graduate community.

Skills

- **Programming languages:**
C++, Python, JavaScript, OCaml, SQL, Scala