

Tulip S. Amalie

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EDUCATION

Bachelor of Science in Computer Science, Bachelor of Science in Mathematics May 2024

Indiana University

Bloomington, Indiana

» GPA: 3.84/4.00

» Dean's List (3 times), Luddy School of Informatics, Computing, and Engineering Direct Admit

TECHNICAL SKILLS

» *Programming languages:* **Racket, Java**, Python, JavaScript, Go, Haskell, C, Rust, R, Shell

» *System administration:* **Linux, Nix/NixOS**, nginx, PostgreSQL, Windows

» *Miscellaneous:* **Technical writing, Git**, Microsoft Office, L^AT_EX, Autodesk Inventor

EXPERIENCE

Indiana University Bloomington

Jan 2021–Dec 2021, Aug 2022–Dec 2022, Aug 2023–Present

Teaching Assistant

Bloomington, Indiana

» Taught freshmen students computer science concepts and new programming language paradigms

» Demonstrated concepts from lecture, assessed student expertise, and communicated weak points to students

» Communicated course goals during lab sections, and provided one-on-one help to students

» Communicated course concepts clearly and effectively to students, drawing frequent analogies

University of Pennsylvania

May 2023–Aug 2023

Research Assistant

Philadelphia, Pennsylvania

» Developed a system to automatically generate test cases for C programs with pointers

» Created with a team of graduate students and professors (Harry Goldstein, Joe Cutler, Benjamin Pierce)

» Worked extensively with a large codebase developed by others (QuickChick)

» Communicated with a large team of other undergraduates about research experiences and future careers

Indiana University Bloomington

Jan 2023–May 2023

Instructor

Bloomington, Indiana

» Designed an entirely original curriculum on programming language type system implementation

» Provided biweekly lectures to graduate students and created auto-grading facilities for coursework

» Maintained comprehensive lecture notes for students to peruse

» Constructed original coursework with clear questions and answers to reinforce key course concepts

Indiana University Bloomington

Jan 2021–Sep 2021, Jan 2022–December 2022

Research Assistant

Bloomington, Indiana

» Wrote extensive documentation and tutorials for entirely new software, with a clear tutorial narrative

» Gave technical talks at ICFP Scheme Workshop (2022, 2021) and RacketCon (2022, 2021)

» Designed a program synthesizer to automatically generate solutions for student problems

» Designed R-inspired data science tools for ergonomic data visualization

University of Minnesota

May 2022–Aug 2022

Research Assistant

Minneapolis, Minnesota

» Worked extensively with Rust and OpenGL to develop a structured editing tool

» Created with a team of graduate students and professors (Favonia, Jon Sterling, Reed Mullanix)

» Provided various open-source contributions to an existing codebase (cooltt)