

Benjamin Darnell

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WORK EXPERIENCE

Graduate Research Assistant

Advised by Prof. Vikram Adve at UIUC

Sept. 2022–May 2026

Urbana, IL

- Created [OpenMander](#), a high-performance graph partitioning engine in Rust for use in computational redistricting; Presented poster at CSL Student Conference '26.
- Led AI research project on developing LLM-based code generation techniques for low-resource programming languages, with applications in IT automation and agriculture; Authored [An Empirical Comparison of Code Generation Approaches for Ansible](#), peer-review paper presented at InteNSE '24 (ACM/IEEE).

Graduate Teaching Assistant

School of Computing, UIUC

Sept. 2023–Jan. 2024

Urbana, IL

- Courses: Programming Languages & Compilers

Undergraduate Research Assistant

UCSB Programming Languages Lab

June 2020–March 2022

Santa Barbara, CA

- Created [Sootty](#), an open-source data visualization tool for hardware simulations.
- Co-authored paper on hardware synthesis: [Control Logic Synthesis: Drawing the Rest of the OWL](#)
- Designed automated practice-problem generation tools for CS education, focusing on algorithmic logic and student engagement.

Undergraduate Teaching Assistant

Department of Computer Science, UCSB

Jan. 2020–Dec. 2021

Santa Barbara, CA

- Courses: Data Structures & Algorithms, Object-Oriented Design

Software Engineering Intern

Jobvite, Inc.

June–Sept. 2019

San Mateo, CA

- Built integration testing framework for Jobvite's Candidate Scheduling interface with Selenium webdriver.

Software Engineering Intern

[Baobab Studios](#)

May–Sept. 2018

Redwood Shores, CA

- Automated audio/video conversion and credited as QA tester for Unity VR game [Crow: the Legend](#).

EDUCATION

University of Illinois at Urbana-Champaign

M.S., Computer Science (GPA: 3.94/4)

Area: Programming Languages and Compilers

Aug. 2022–May 2026

Urbana, IL

University of California, Santa Barbara

[College of Creative Studies](#)

B.S., Computer Science (Highest Honors, GPA: 3.98/4)

Sept. 2018–June 2022

Santa Barbara, CA

Technion, Israel Institute of Technology

International Student Exchange Program

March–Aug. 2022

Haifa, Israel

- Coursework in Signal Processing & Automata Theory
- Awarded UCEAP Memorial Scholarship.

TECHNICAL SKILLS

Specializations: Compiler Design, LLM-Based Code Generation, Algorithm Design & Optimization

Languages: Python, C/C++, Rust, Java, OCaml, JavaScript & TypeScript, HTML/CSS, Verilog

Tools & Frameworks: Git, Docker, LaTeX, Unix Shell, React, LLVM

Relevant Coursework: Formal Languages & Compilers, Approximation Algorithms, Computational Geometry, Machine Learning & AI, Computer Architecture, Operating Systems, Scalable Web Systems.

LEADERSHIP AND SERVICE

Mentor, Google Summer of Code

Free and Open Source Silicon Foundation

Summer 2022

- Supervised multiple students in the development and release of an open-source CLI-based waveform viewer.

Director, SB Hacks

UC Santa Barbara's inclusive, student-run hackathon

2020–2021

Santa Barbara, CA

- Led a cross-functional team of 15 organizers to run a large-scale virtual hackathon; oversaw end-to-end logistics including technical infrastructure, budget management, and stakeholder outreach for 500+ participants.