

# Melinda Chang

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## RESEARCH INTERESTS

- Security methods for artificial intelligence ethics
- Programming languages, compilers, type systems
- Literary theory, critical and cultural studies

## Education

2024– **B.A., Computer Science & Comparative Literary Studies**  
*Northwestern University*, Evanston, IL  
GPA: 3.79, Dean's List (2 quarters)

## Selected Experience

2025– **NORTHWESTERN UNIVERSITY**  
*Undergraduate Researcher*, Computational Journalism Lab  
Advisor: Dr. Nick Hagar (lab of Prof. Nicholas Diakoupolous). Technical interventions for data-secure SLMs in investigative document search.  
Evanston, IL

2025– **UNIVERSITY OF CALIFORNIA, BERKELEY**  
*Undergraduate Researcher*, School of Information  
Advisor: Prof. Timothy Tangherlini. Exploring the affordances of language models in parsing and structuring textual data, esp. literary narratives with high social complexity.  
Berkeley, CA (Remote)

2023–2024 **UNIVERSITY OF CALIFORNIA, SAN DIEGO**  
*Student Researcher*, Programming Systems Group  
Advisor: Prof. Michael Coblenz. Toward ergonomic programming languages and software processes for computational climate scientists. Second author, ICSE '24 (22% acceptance).  
La Jolla, CA

2022 **UNIVERSITY OF CALIFORNIA, SAN DIEGO**  
*Research Assistant*, Laboratory for Computational Astrophysics  
Advisor: Prof. Michael Norman. Systems programming to support analysis of dark matter halos in

early universe simulations.  
La Jolla, CA

2022      HACK CLUB  
*Software Engineer Intern*  
Building web tooling for JavaScript-based game engine.  
Shelburne, VT (Remote)

## Publications

2024      Elizaveta Pertseva, *Melinda Chang*, Ulia Zaman, Michael Coblenz. [A Theory of Scientific Programming Efficacy](#). ICSE 2024 [International Conference on Software Engineering].

## Awards & Grants

2024      National Merit Finalist.

2023      4th Place in Computational Systems & Analysis, *California Science & Engineering Fair*.

2023      1st Award in Computer Science & Systems Software, *Greater San Diego Science & Engineering Fair*.

## Teaching Experience

Fall 2025      *Undergraduate Teaching Assistant*, COMP\_SCI 396 Intro to Web Development  
Northwestern University · Evanston, IL

## Service

2025–      *Reporter*, Daily Northwestern  
Critical coverage of visual art, literature, music for Arts & Entertainment desk.  
Northwestern University · Evanston, IL

2025–      *Staff Writer*, Responsible AI Student Organization (RAISO)  
On current events in artificial intelligence ethics, tech policy, and computing culture.  
Northwestern University · Evanston, IL

2024–      *Director of Technology*, WildHacks  
Leading software development at the largest intercollegiate hackathon in the Chicagoland area.  
Northwestern University · Evanston, IL

2021–2024      *Outreach Volunteer*, San Diego Astronomy Association  
Lectured on astronomical objects at dark sky sites across the state.

2023

*Founder & Director*, Hack the Wave

Organized biggest high schooler-run hackathon in San Diego County history.

## Selected Projects

2022–2023

*Albio*. Lightweight JavaScript compiler to enable reactive web programming directly in markdown. Outperforms Virtual DOM-based frameworks like React, Vue in key benchmarks.

## Selected Skills

TypeScript, React, Svelte, SASS, Tailwind · Rust · Common Lisp, Scheme · C/C++ · Python · Java · Linux, Bash, Git.

## Relevant Coursework

Programming Languages · Intro to Computer Networking · C/C++ Programming · Intro to Functional Programming · Intro to Computer Systems · Data Structures & Algorithms · Multivariable Calculus · Linear Algebra · Intro to Literary Theory.