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

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.