name: Melinda Chang phone: '+1 (858) 342 8852' email: melinda@u.northwestern.edu

urls:
- melindachang.com
- codeberg.org/melindachang
- linkedin.com/in/melindahchang

interests:
- Programming languages, compilers, type systems
- Language-based security, defensive computing
- Cultural analytics, literary theory, critical and cultural studies

education:
- years: 2024–Present subject: B.A., Computer Science & Comparative Literary Studies institute: Northwestern University city: Evanston, IL gpa: 3.79 subtitle: Dean's List (2 quarters)

experience:
- years: 2025–Present employer: University of California, Berkeley group: School of Information job: Undergraduate Researcher city: Berkeley, CA advisor: Prof. Timothy Tangherlini description: Exploring the affordances of language models in apprehending literary narratives with high social complexity.
- years: 2023–2024 employer: University of California, San Diego group: Programming Systems Group job: Student Researcher city: La Jolla, CA advisor: Prof. Michael Coblenz description: Toward ergonomic programming languages and software processes for computational climate scientists.
- years: '2022' employer: University of California, San Diego group: Laboratory for Computational Astrophysics job: Research Assistant city: La Jolla, CA advisor: Prof. Michael Norman description: Systems programming to support analysis of dark matter halos in early universe simulations.
- years: '2022' employer: Hack Club job: Software Engineer Intern city: Shelburne, VT (Remote) description: Building web tooling for JavaScript-based game engine.

publications:
- title: A Theory of Scientific Programming Efficacy year: 2024 authors:
  ‣ Elizaveta Pertseva
  ‣ Melinda Chang
  ‣ Ulia Zaman
  ‣ Michael Coblenz

  venue: ICSE 2024 [International Conference on Software Engineering] doi: https://doi.org/10.1145/3597503.3639139

awards:
- name: National Merit Finalist years: 2024
- name: 4th Place in Computational Systems & Analysis organization: California Science & Engineering Fair years: 2023
- name: 1st Award in Computer Science & Systems Software organization: Greater San Diego Science & Engineering Fair years: 2023

projects:
- name: Albio url: https://github.com/melindachang/albio years: 2022–2023 description: Lightweight JavaScript compiler to enable reactive web programming directly in markdown. Outperforms Virtual DOM-based frameworks like React, Vue in key benchmarks.

service:

- title: Staff Writer organization: Responsible AI Student Organization (RAISO) years: 2025–Present description: On current events in artificial intelligence ethics, tech policy, and computing culture.
- title: Founder & Editor-in-Chief organization: Critical Culture Undergraduate Journal years: 2025–Present description: Northwestern's premier undergraduate venue for critical writing.
- title: Director of Technology organization: WildHacks years: 2024–Present description: Leading software development at the largest collegiate hackathon in Chicagoland.
- title: Outreach Volunteer organization: San Diego Astronomy Association years: 2021–2024
- title: Founder & Director organization: Hack the Wave years: '2023' description: Organized San Diego County's biggest-ever high school hackathon.

skills:
- TypeScript, React, Svelte, SASS, Tailwind
- Rust
- C/C++
- Python
- Java
- ELisp
- Linux, Bash, Git

coursework:
- Data Structures & Algorithms
- Intro to Literary Theory
- C/C++ Programming
- Intro to Functional Programming
- Intro to Computer Systems
- Intro to AI
- Multivariable Calculus
- Linear Algebra