Ian Loam

ialoam@berkeley.edu • (858) 757-4280 • github.com/ianloam • ianloam.com

SUMMARY

I am passionate about cryptography and theoretical computer science. I am focused on research surrounding post-quantum cryptography, complexity theory, algebraic geometry, fully homomorphic encryption, deep learning theory, compiler design and zero-knowledge proofs.

EDUCATION

University of California, Berkeley *Graduating Spring 2026*

Bachelor of Arts in Math; Bachelor of Arts in Computer Science GPA: 3.833/4.0

- ★ **Coursework**:
  Data Structures & Algorithms (CS61B), Abstract Linear Algebra (MATH110), Real Analysis (MATH104), Discrete Math & Probability Theory (CS70), Linear Algebra & Differential Equations (MATH54), Abstract Algebra (MATH113), Algebraic Topology (MATH142), Algebraic Geometry (MATH143), Complex Analysis (MATH185), Putnam Competition (MATH191)
- ★ **Clubs**: Quantum Computing@Berkeley (Theory, Cryptography Group), Yugoslav Studies Association, Berk1337 (Cybersecurity Competitions), Berkeley Math Tournament (Problem Writer)

SKILLS/AWARDS

- ★ AP Computer Science Perfect Score (ranked in the top 0.47% globally)
- ★ CollegeBoard National Hispanic Scholarship Award
- ★ **Programming Languages:** C/C++, Java, Python, JavaScript, SQL, Go, Rust, Haskell, Lisp (Racket & Scheme), Linux shell (bash, zsh, etc.), R, Assembly language (x86 asm), Verilog, Forth, HTML, CSS
- ★ **Frameworks**: PyTorch, NumPy, Tensorflow, Node.js, React, Vue.js, Express, Bootstrap, Flask, Django
- ★ **Other Technologies**: Git/GitHub, Linux/*BSD system admin, Docker, FPGA design, OpenGL, Emacs
- ★ Fluent in English and Spanish

EXPERIENCE

Berkeley Computational Pathology Lab Feb 2024 – Present

Undergraduate Research Apprentice Intern

- ★ Lead programmer for the development of an open-source annotation collection framework to accelerate the use of machine learning in cancer diagnosis and clinical pathology research
- ★ Developed frontend and backend of web interface; integrated machine learning-assisted annotation technologies; optimized platform for usability (~2x faster annotation workflows in pilot testing)
- ★ Collaborated with researchers from UCSF, UNC Chapel Hill, & KTH Royal Institute of Technology
- ★ Advised paper writing on the app and adjacent research pertaining to LLMs and computer vision

UCSD + League of Amazing Programmers Jan 2019 – Mar 2022

Software Engineering Intern

- ★ Developed full-stack web-application for robust management of lab mice for experiments; Eliminated ~90% of manual tracking through automation; Used by 10+ researchers across 3 labs
- ★ Collaborated with a team (15 ppl) of developers, contributing to project planning, implementation and development of a REST API; Drafted Figma designs for the frontend and visualizations
- ★ Contributed to back-end development of the app with Python server-side logic and deployed Docker instances, enabling efficient database management and calculations

Ellen Browning Scripps Elementary Technology Academy July 2018 – Aug 2022

Lead Programming Tutor

- ★ Tutored (over 40 elementary students) aimed to foster early interest in programming and computer science topics in middle and elementary school students
- ★ Designed and delivered an engaging programming curriculum, introducing programming fundamentals in Java, Python and early Computer Science topics
- ★ Stimulated a positive and interactive learning environment, encouraging student participation and curiosity in computer science