Ian A. Loam

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SUMMARY I am an undergrad Math and Computer Science major at UC Berkeley passionate about cryptography and theoretical computer science. Interested in: post-quantum cryptography, complexity theory, algebraic geometry, fully homomorphic encryption, deep learning theory, compiler design, zero-knowledge proofs

EDUCATION

UC Berkeley, Berkeley, CA *Graduating Spring 2026*

Math and Computer Science Major (GPA: 3.833)

- ★ **Coursework**: CS61A(Structures and Interpretation of Computer Programs), CS61B(Data Structures), CS70(Discrete Math and Probability Theory), MATH54(Linear Algebra and Diff. Equations), MATH110(Abstract Linear Algebra), MATH104(Analysis), MATH113(Abstract Algebra), Math191(Putnam Competition), MATH185(Complex Analysis), MATH143(Algebraic Geometry), MATH142(Algebraic Topology)
- ★ **Clubs**: Quantum Computing@Berkeley(Theory, Cryptography Group), Berk1337(Cybersecurity Competitions), Berkeley Math Tournament(Problem Writer)

SKILLS/AWARDS

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

EXPERIENCE

Berkeley URAP Computational Pathology Lab

Research Apprentice and Intern (Feb–May 2024; Jun–Aug 2024 Full Time(INTERNSHIP); Sep 2024–Present)

- ★ 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
- ★ Developing the front and backend of the annotation application while incorporating machine learning assisted annotation technologies
- ★ Collaborating with an interdisciplinary team of data scientists from Berkeley, the KTH Royal Institute of Technology and UNC Chapel Hill
- ★ Working closely with clinicians from UCSF to optimize the annotation platform for usability
- ★ Helping write papers surrounding the software development
- ★ Weekly paper readings on deep learning, LLMs, and biomedical concepts

UCSD and League of Amazing Programmers

Software Intern (Jan 2019–Mar 2022)

- ★ Worked on the “Mousetrap” Project, a collaborative effort with the League of Amazing Programmers and UCSD to create an application for better managing lab mice for experiments
- ★ Collaborated with a team of developers, contributing to project planning, implementation and development over GitHub and Slack
- ★ Developed the front-end interfaces of the app with ReactJS and Node JS, enhancing user experience and interface functionality
- ★ Contributed to back-end development of the app with Python server-side logic and Docker instances, enabling efficient database management and calculations

Technology Academy, Ellen Browning Scripps Elementary

Lead Programming Tutor (Jul 2018–Aug 2022)

- ★ Worked in an after-school program within E.B.S. Elementary 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