Lucas Xia

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Education

New York University — New York, NY
PhD in Computer Science — Sep. 2025 - present

Stanford University — Stanford, CA
MS in Computer Science, 4.02 GPA — Sep. 2021 - Jun. 2023

- **Coursework**: Cryptocurrencies and Blockchains (CS 251), Cryptography (CS 255), Adv. Cryptography (CS 355), Error Correcting Codes (CS 250), Computer Security (CS 155), Topics in Computer Security (CS 356), OS Kernel Project (CS 112)

University of California, Los Angeles — Los Angeles, CA
BS in Computer Science, Summa Cum Laude — Sep. 2018 - Jun. 2021

- **Coursework**: Algorithms (CS 180), Automata Theory (CS 181), Computer Arch. (CS 33, M151B), Software Eng. (CS 130), PL (CS 131), OS (CS 111), AI (CS 161), ML (CS M146), Real Analysis (Math 131A), Prob. Theory (Math 170A), Game Theory (Math 167), Abstract Lin. Alg. (Math 115AH)

Research

SNARKs for Integers with Low Overhead — Research Project at NYU — 2025 - 2026

- Constructed generic compiler from a PCS to a PCS with integer openings, leading to more efficient and modular SNARKs for Integer computations

Mux Proofs — zkSNARK Research Project with Applied Cryptography Group at Stanford University — 2022 - 2024

- **Accepted to AsiaCrypt 2024**
- Constructed novel cryptographic protocols leading to improved prover time complexity in Zero Knowledge Virtual Machines
- Implemented Succinct Vector Lookup primitive in Rust to rigorously show practical efficiency - 60x speedup compared to naive in verifier time for medium vector sizes

Positions

Cryptography Engineer — Aztec Labs — Aug. 2023 - Sept. 2025

- Implemented and optimized performant ZK-SNARK system enabling private blockchain transactions

Quantitative Trading Intern — Susquehanna International Group — Jun. 2021 - Aug. 2021

- Developed a tool for querying exact earnings times and shadowed traders on the Index Delta Desk
- Studied fundamental options and market making concepts through classes and mock trading

Software Engineering Intern — Citadel Securities — Jun. 2020 - Aug. 2020

- Worked on the ETF Desk's Front Office, assisting International ETF Creation/Redemption Orders
- Optimized and automated processes affecting aspects of decision-making and trading

Software Engineering Intern — VUI.AI Inc — Jun. 2019 - Sep. 2019

- Utilized open-source spaCy library to train natural language processing models to recognize app-specific intents, entities which reduced costs, improved efficiency and accuracy of company products
- Designed front-end of Voice+Twitter with React Native, worked on Tweet, Timeline Screens

Projects

Rove — Emergency Response Dashboard to gather, display, organize data, direct responders efficiently — 2019

- **IBM Call for Code 2019 Global Finalist, Top 3 Globally out of 5,000+ submissions, won $25,000**
- Designed backend routing algorithms to provide fastest response routes while avoiding damaged roads

OpenSesame — Face-Recognition Smart Lock Service for easy access control for multiple users — 2019

- UC Santa Barbara Hacks V 2019 Best Security Hack
- Wrote the face-recognition scripts with OpenCV, dlib libraries that determine best matches with ML

Teaching

Teaching Assistant — Stanford University 2022 - 2023

- Topics in Cryptography (CS 355): Led weekly office hours, answered questions on online forums, graded problem sets for advanced cryptography topics
- Cryptography (CS 255): Held office hours, answered questions on online forums, graded problem sets
- Cryptocurrencies and Blockchain (CS 251): Taught a section on PLONK, led weekly office hours, answered questions on online forums, graded problem sets and programming projects
- Design and Analysis of Algorithms (CS 161): Designed weekly implementation problem and automated grader, led weekly office hours, answered questions on online forums, graded problem sets

Computer Science Instructor — AlphaStar Academy Summer 2018

- Taught C++, problem-solving techniques to prepare students for the USA Computing Olympiad
- Prepared lesson plans and extra exercises to target hands-on learning and critical thinking
- Taught 6 hours a day to class sizes of 15+ high school students, many qualified for higher divisions

Honors

Competitions

- Two-time ICPC World Finalist, **31st, 34th Place Globally** 2021, 2022
- Codeforces International Master (Rating: 2350), Top 0.8% out of 100,000+ 2019 - present
- USA Computing Olympiad (USACO) Platinum Division Contestant 2017
- Two-time USA Mathematics Olympiad (USAMO) Qualifier, **Placed 89th nationally** 2017, 2018
- Three-time USA Physics Olympiad (USAPhO) National Semifinalist, Top 400 nationally 2016, 2017, 2018

Academic Awards

- Upsilon Pi Epsilon Member and Officer, Top 1/3 of Computer Science class 2019 - 2021

Activities and Leadership

Stanford ICPC Team Coach 2021 - 2023

- Managed Stanford ICPC regionals team composed of 18 members
- Helped lead weekly topic discussion meetings and training practices

UCLA ACM ICPC Officer 2018 - 2021

- Led Data Structures and Algorithms Advanced Track
- Managed UCLA ICPC regionals team composed of 15 members
- Organized annual CodeSprintLA programming contest

Skills

C++, C, Python, Rust, Bash, Java, JavaScript, Lisp, Solidity