

# Weston Kirk

📍 Stanford, CA

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## Education

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### Stanford University

Sept 2022 – June 2027

*BS in Mathematics, Earth Systems*

*MS in Computer Science*

- **Relevant Coursework:** Automated Reasoning, Probability Theory, Linear Algebra, Multivariable Calculus, Discrete Math, Number Theory, Graph Theory, Data Structures, Systems, Remote Sensing, Geosciences
- **Research interests:** Geospatial AI, Discrete Mathematics, Formal Methods, AI4Math, AI4Science

## Publications

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**VeriBench: End-to-End Formal Verification Benchmark for AI Code Generation in Lean 4.** Brando Miranda, Zhanke Zhou, Allen Nie, Elyas Obbad, Leni Aniva, Kai Fronsdal, **Weston Kirk**, Dilara Soyly, Andrea Yu, Ying Li, Sanmi Koyejo. *ICML AI for Math Workshop, 2025*. [Nominated for Oral \(Top 1%\)](#)

## Experience

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### CURIS Fellow, STAIR Lab

Apr 2025 – Present

*Stanford CS Department*

- Researched formal verification benchmarks for AI code generation in Lean 4 under Dr. Sanmi Koyejo.

### Biology Researcher, Daru Lab

Sept 2023 – Present

*Stanford Biology Department*

- Studied crop wild relatives biogeography under Dr. Barnabas Daru; Biogeography R Workshop 2023.

### Earth Systems Public Service Fellow

June 2023 – Sept 2023

*Haas Center for Public Service, Save Our Springs Alliance*

*Austin, TX*

- Co-founded a conservation coalition; presented at the inaugural event with 50+ attendees.

## Projects

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### Comparison of Discrete Logarithm Algorithms

2025

- Compared Baby-step Giant-step, Pollard's Kangaroo, and Pohlig-Hellman algorithms for the Discrete Log Problem, deriving complexity bounds and cryptographic security tradeoffs.

### Pixel-Based Classification of Prairie Remnants

2025

- Benchmarked 4 supervised classifiers, achieving literature-comparable accuracy using only 1,000 training pixels.

### Moonquake CNN Classifier

2024

- Built CNN for moonquake classification (90%+ validation); applied to unclassified events.

### BSURP Research Project

2024

- Developed algorithm for  $n$ -nearest monophyletically-clustered relatives; modeled diversity shifts.

### CS 109 Grand Challenge Project

2024

- Used rolling MLE for Poisson/Exponential RVs to analyze spring-flow time series; finalist (9 of 113, ~8%).

## Additional Information

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### CURIS Fellowship

2025

- Selected as 1 of 15 undergraduates for CURIS research fellowship.

### YC AI Startup School

2025

- Admitted to inaugural conference (3k/18k ~17%).

### Reviewer, NeurIPS 2025 MATH-AI Workshop

2025

- Selected to serve as a reviewer for a premier workshop on mathematical reasoning and artificial intelligence.

### CS 103 Challenge Problem Award

2024

- Solved advanced theory problems on diagonalization, Turing Machines, and regular languages.