

Ari Biswas

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Education

University of Warwick

Doctoral Candidate (Computer Science)

06/2022 -- present

Thesis: "Secure And Verifiable Computation In The Modern World"

In Preparation

University of Wisconsin-Madison

MSc. Computer Science (Funded By Amazon + Research Grant From Marshfield Clinic)

09/2015 -- 12/2017

BSc. Computer Engineering and Mathematics

09/2011 -- 05/2015

Experience

Director: On A Tangent Ltd

Oxford, UK

Mathematics and software consulting services.

05/2025 -- present

Layer Zero Labs

Vancouver, CA

- Formal verification of the Jolt zkVM.
- **Reference:** Quang Dao (quang.dao@layerzerolabs.org)

02/2026 -- present

A16z Crypto

NY, USA

- Optimising and benchmarking Jolt zkVM performance.
- See Open Source Contributions section for details.
- **Reference:** Justin Thaler (jthaler@a16z.com)

05/2025 -- 12/2025

Visiting Researcher

Boston University

- Topic: Statistical Zero Knowledge Proofs For Distribution Testing
- **Host:** Ran Canetti (canetti@bu.edu)

Boston, MA, USA

03/2025 -- 04/2025

Visiting Researcher (Program: Sublinear Algorithms)

Simons Institute

- Topic: Interactive Proofs For Distribution Testing
- **Reference:** Clément Canonne (clement.canonne@sydney.edu.au)

Berkeley, CA, USA

05/2024 -- 08/2024

Applied Scientist

Amazon

- **References:** Daniel Marcu, Benjamin Snyder

05/2017 -- 11/2022

- Lead scientist for offline evaluation of dialogue systems in Alexa and personalised news recommendations in Alexa.

Cambridge, UK

03/2020 -- 11/2022

- Lead scientist for real-time interactive search platform. Deployed in January 2018; *Press release:* (bizjournals.com). Algorithm description appeared at KDD-2019.

Seattle, WA, USA

05/2017 -- 03/2020

Publications

In chronological order

Biswas, Ari and Rajko Nenadov. 2026. Refuting Perfect Matchings in Spectral Expanders is Hard. *SIAM Journal on Discrete Mathematics*.

Biswas, Ari, Mark Bun, Clément Canonne and Satchit Sivakumar. 2026. Interactive Proofs For Distribution Testing. In: *Proceedings of the 17th Innovations in Theoretical Computer Science (ITCS 2026)*, ed. by Program Committee of ITCS 2026. Milan, Italy,.

Biswas, Ari, Graham Cormode, Yaron Kanza, Divesh Srivastava and Zhengyi Zhou. 2024. Differentially private hierarchical heavy hitters. *Proceedings of the ACM on Management of Data* 2, Nr. 5: 1–25.

- Biswas, Ari and Graham Cormode. 2023. Interactive proofs for differentially private counting. In: *Proceedings of the 2023 ACM SIGSAC Conference on Computer and Communications Security*, 1919–1933.
- Biswas, Ari, Thai T Pham, Michael Vogelsong, Benjamin Snyder and Houssam Nassif. 2019. Seeker: Real-time interactive search. In: *Proceedings of the 25th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining*, 2867–2875.
- Pimentel-Alarcón, Daniel L, Ari Biswas and Claudia R Solís-Lemus. 2017. Adversarial principal component analysis. In: *2017 IEEE International Symposium on Information Theory (ISIT)*, 2363–2367.
- Balasubramanian, Raghuraman, Zachary York, Matthew Doran, Ari Biswas, Timur Girgin and Karthikeyan Sankaralingam. 2014. Hands-on introduction to computer science at the freshman level. In: *Proceedings of the 45th ACM technical symposium on Computer science education*, 235–240.

Open Source Contributions

[JOLT](#) - Optimising Jolt Sumchecks

06/2025 – Present

- Implemented Streaming Sumchecks and Small Scalar Binding for Jolt zkVM.
- Contributed to Formal Specification of Jolt.
- Pull Requests (<https://github.com/a16z/jolt/commits?author=abiswas3>).
- Documentation of contributions (<https://randomwalks.xyz/posts/>).
- **Languages:** Rust 🦀, Lean4

Role: Contributor

Honours and Awards

Dean's List, Electrical and Computer Engineering	2011-2015
Best Senior Thesis, Electrical and Computer Engineering	2015
Amazon Grant (\$40,000)	2017
Chancellor's International Scholarship (£67,329)	2022-2025
Travel Grant \$250, TPDP, Boston	2023