

## CV - OLLI JÄRVINIEMI

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### Education

**Doctor of Philosophy** 2023. Department of Mathematics and Statistics, University of Turku.

**Master of Science** 2021. Department of Mathematics and Statistics, University of Helsinki.

**Bachelor of Science** 2020. Department of Mathematics and Statistics, University of Helsinki.

### Work experience

Jan. 2024 – current: Technical AI safety researcher, Constellation Research Center.

Mar. 2023 – Aug. 2023: Independent researcher on AI safety. Awarded funding from Open Philanthropy.

Sept. 2021 – Feb. 2023: Doctoral student, Department of Mathematics and Statistics, University of Turku. Supervisor: Kaisa Matomäki.

June–Aug. 2020 and Jan.–Aug. 2021: Research assistant, Department of Mathematics and Statistics, University of Helsinki.

### List of publications

Published articles:

- Composite values of shifted exponentials, joint with Joni Teräväinen. *Adv. Math.*, 2023.
- Positive lower density for prime divisors of generic linear recurrences. *Math. Proc. Cambridge Philos. Soc.*, 2023.
- Unified treatment of Artin-type problems, joint with Antonella Perucca. *Res. in Number Theory*, 2023.
- Solvability of a system of polynomial equations modulo primes. *Bull. Aust. Math. Soc.*, 2022.
- Simultaneous insolvability of exponential congruences. *J. Number Theory*, 2022.
- Equality of orders of a set of integers modulo a prime. *Proc. Amer. Math. Soc.*, 2021.

Doctoral thesis: Problems in Analytic and Algebraic Number Theory.

Master's thesis: Polynomial and exponential equations modulo primes.

Unpublished manuscripts:

- Gaussian almost primes in almost all narrow sectors, joint with Joni Teräväinen, 2023. arXiv:2303.05822

- On large differences between consecutive primes, 2022. arXiv:2212.10965
- Unified treatment of Artin-type problems II, joint with Antonella Perucca and Pietro Sgobba, 2022. arXiv:2211.15614
- Orders of algebraic numbers in finite fields, 2021. arXiv:2106.09813

### **Awards, honours, other experience**

Finnish Mathematical Society thesis award for the best thesis in the field of mathematics. 2024.

International Mathematical Olympiad: Silver medal. 2019. Best ever relative ranking by a Finnish contestant.

European Union Contest for Young Scientists: 2nd prize. 2019.

International Olympiad in Informatics: Bronze medal. 2019.

MAOL Finnish national math contest for high school students: First place (2019, 2018).

Participation in various other national and international contests in mathematics and competitive programming.

I have written a book on problem solving in mathematical olympiads: <https://matematiikkakilpailut.fi/kirjallisuus/0000.pdf> I have also created a course on the topic: <https://kurssi.matematiikkakilpailut.fi>.