

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

March 2023 – present: Independent **researcher** (on a grant), on artificial intelligence safety.

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Unpublished manuscripts: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

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), second place (2017).

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>.