

# DANIEL TARNU

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## EDUCATION

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**PhD Candidate**, Simon Fraser University Expected 2023  
Mathematics – number theory and dynamical systems with applications to information theory.

**MSc**, Western Washington University 2017 - 2019  
Mathematics – dynamical systems and ergodic theory.

**BSc**, Western Washington University 2014-2017  
Mathematics

## SKILLS

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**Programming Languages** Python, MATLAB, LaTeX, HTML/CSS/JS/Vue  
**Languages** English, Romanian, Spanish

## TEACHING

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**Graduate Teaching Assistant** Sep 2019 - Nov 2022  
Simon Fraser University Burnaby, BC, Canada

- Tutored linear algebra, discrete math, precalculus, uni- and multivariate calculus, and computer vision.

**Graduate Instructor** Sep 2018 - June 2019  
Western Washington University Bellingham, WA

- Acted as instructor and grader for intermediate algebra and business calculus.
- Collaboratively developed curricula.

## PROJECTS

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**Master's project** *Basics of ergodic theory and a proof of Roth's theorem* – Survey of an ergodic proof of Roth's theorem on arithmetic progressions, starting from the basics of ergodic theory. Expository talks given in May 2019 at Western Washington University and February 2020 at Simon Fraser University.

**Erdős Institute** *Plant phenology classification using computer vision* – Used iNaturalist data to classify roses as flowering or fruiting. Done through the Erdős Institute's Data Science Bootcamp. [Check it out](#)

## PUBLICATIONS

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- D. Tarnu, *On maximal autocorrelations of Rudin-Shapiro sequences*, submitted (2022).
- S. Choi and D. Tarnu, *The order of the fundamental solution of  $X^2 - DY^2 = 1$  in  $\mathbb{Z}[\sqrt{D}]/\langle D \rangle$* , *Integers* **22** (2022) article A84.
- S. Choi, P.C.H. Lam, and D. Tarnu, *Gap principle of divisibility sequences of polynomials*, *Journal of Number Theory* **223** (2021) 153-167.