Parsa Rangriz

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INTERESTS
- Probability Theory
- Stochastic Analysis
- High-Dimensional Probability
- Random Matrices
- Statistical Physics
- Spin Glasses

EDUCATION

University of Waterloo, Ontario, Canada — Sep 2023 - Apr 2025 (Expected)
Master of Mathematics in Statistics (Thesis-Based) — GPA: 92.25/100
(Supervisor: **Prof. Aukosh Jagannath**)

Sharif University of Technology, Tehran, Iran — Sep 2018 - Feb 2023
Bachelor of Science in Physics — GPA: 18.34/20
Minor in Mathematics

RESEARCH EXPERIENCES

University of Waterloo, Ontario, Canada
Graduate Research Student — Sep 2023 - Current
Supervisor: **Prof. Aukosh Jagannath**
Master's Thesis: *Scaling Limits of Stochastic Gradient Descent for the Single Index Models in the Teacher-Student Network*

EPFL, Lausanne, Switzerland
Summer Research Intern — July 2022 - Sep 2022
Supervisor: **Prof. Lenka Zdeborova**
Project: *Assortative Partitions on Directed Dense Graphs*

Sharif University of Technology, Tehran, Iran
Undergraduate Research Student — June 2021 - Sep 2021
Supervisor: **Prof. Amir Daneshgar**
Project: *Belief Propagation for Graph Partitioning*

Sharif University of Technology, Tehran, Iran
Undergraduate Research Student — Feb 2021 - June 2021
Supervisor: **Prof. Abolhassan Vaezi**
Project: *Phase Transitions in the Transverse-Field Ising Model*

HONORS AND AWARDS

Graduate Research Studentship, UWaterloo, 2023-2024
International Master's Award of Excellence, UWaterloo, 2023-2024
Master of Mathematics Entrance Scholarship, UWaterloo, 2023
Summer@EPFL Fellowship, 2022
Silver Medal in the 30th Iran National Physics Olympiad, 2018

SUMMER SCHOOLS

CRM-PIMS Summer School in Probability 2024
Centre de Recherches Mathematiques, Universite de Montreal, QC, Canada

TEACHING EXPERIENCES

University of Waterloo, Ontario, Canada
Teaching Assistant

- STAT 333: Stochastic Processes 1 (Winter 2025, Winter 2024)
- STAT 433/833: Stochastic Processes 2 (Fall 2024)
- STAT 330: Mathematical Statistics (Spring 2024, Fall 2023)
- STAT 231: Probability (Spring 2024)
- STAT 230: Statistics (Spring 2024)
- STAT 202: Introductory Statistics for Scientists (Fall 2023)

Sharif University of Technology, Tehran, Iran
Teaching Assistant

- Advanced Statistical Mechanics (Fall 2022, Fall 2021, Spring 2021)
- Statistical Mechanics 2 (Spring 2021)
- Statistical Mechanics 1 (Fall 2020)

SELECTED
COURSES

University of Waterloo, Ontario, Canada (2023-2024)

- STAT 946: Topics in Statistics (Math Foundations of Deep Learning)
- STAT 902: Theory of Probability 2 (Stochastic Calculus)
- STAT 891: Topics in Probability (Random Matrix Theory and HDP)
- STAT 908: Statistical Inference
- STAT 901: Theory of Probability 1 (Probability Theory)

Sharif University of Technology, Tehran, Iran (2018-2023)

- Advanced Theory of Statistics
- Information-Theoretic Methods in High Dimensional Statistics
- Graphical Models, Variational Inferences, and Entropy Maximization
- Advanced Statistical Physics
- Machine Learning in Physics

SKILLS

Programming Skills and Tools

- Experienced in C and Python
- Familiar with Scikit-learn, Keras, and TensorFlow libraries.
- Experienced in Wolfram Mathematica and LaTeX.