Parsa Rangriz

CONTACT INFORMATION

Department of Statistics and Actuarial Science,
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EDUCATION

University of Waterloo
M.Math. in Statistics (Sep 2023 - Apr 2025)
- Advisor: Prof. Aukosh Jagannath
- GPA: 92.25/100
- Thesis: *High-Dimensional Scaling Limit of SGD in Single-Index Models*

Sharif University of Technology
B.Sc. in Physics (Sep 2018 - Feb 2023)
- Minor in Mathematics
- GPA: 18.34/20

RESEARCH EXPERIENCES

Graduate Research Student,
University of Waterloo (Sep 2023 - Apr 2025)
- Supervisor: Prof. Aukosh Jagannath
- Project: *High-Dimensional Scaling Limit of SGD in Single-Index Models*
- Description: *My ongoing thesis focuses on the functional central limit theorem of online stochastic gradient descent in single-index models. Using the martingale problem, with random initialization, we study the diffusive dynamics of online SGD for the teacher-student network, such as the Ornstein-Uhlenbeck process.*

Summer Research Intern,
EPFL - Swiss Federal Institute of Technology in Lausanne (July 2022 - Sep 2022)
- Supervisor: Prof. Lenka Zdeborova
- Project: *Assortative Partitions on Dense Random Graphs.*
- Description: *Assortative partitions on directed dense random graphs were studied using the replica-symmetric approach to analyze phase transitions and to interpret partitions in the high-dimensional limit using message-passing algorithms.*

HONORS AND AWARDS

University of Waterloo Graduate Scholarship, $1,000 CAD, 2025

Graduate Research Studentship, University of Waterloo, $36,473 CAD, 2023-2025

International Master's Award of Excellence, University of Waterloo, $5,000 CAD, 2023

MMath Entrance Scholarship, University of Waterloo, $1,000 CAD, 2023

Summer@EPFL Fellowship, EPFL, 4,800 CHF, 2022

Ranked 5th in the 26th Iran University Physics Olympiad held by Sanjesh Org., 2021

Silver Medal in the 30th Iran National Physics Olympiad held by Sampad Org., 2017

SUMMER SCHOOLS

CRM-PIMS Summer School in Probability, Universite de Montreal, Canada, 2024

Summer@EPFL: Summer Research Internship, EPFL, Switzerland, 2022

Teaching Experiences	**Teaching Assistant**, University of Waterloo (2023-2025)

Teaching Experiences

Teaching Assistant, University of Waterloo (2023-2025)
- STAT 333: Stochastic Processes 1 (Winter 2025, Winter 2024)
- STAT 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)

Teaching Assistant, Sharif University of Technology (2019-2022)
- Thermodynamics and Statistical Mechanics III (Fall 2022, Fall 2021, Spring 2021)
- Thermodynamics and Statistical Mechanics II (Spring 2021)
- Thermodynamics and Statistical Mechanics I (Fall 2020)
- General Physics III (Fall 2019)

Services

Member of Partov Club: University of Waterloo Iranian Cultural Group, 2024 - 2025
Scientific Coordinator of Sharif Physics Undergraduate Student Association, 2020 - 2021
Organizer of Quanta: Sharif Physics Study Circles, 2020 - 2021
Director of Feynman's Lecture Notes Translation, Zharfa Scientific Association, 2021
Editorial Board Member of Takaneh: Sharif Physics Student Magazine, 2019-2020

Skills

Programming: Experienced in C and Python
Libraries: Familiar with Scikit-Learn, Keras, and TensorFlow
Tools: Experienced in Wolfram Mathematica and LaTeX
Languages: English (C1), Turkish (Fluent), Azerbaijani and Persian (Native)