Victoria Valeeva

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Education

University of Toronto 2021 – 2025

Honours Bachelor of Science – Mathematics and Statistics *Canada*

- GPA: 3.97
- Honours Linear Algebra, Honours Calculus, Intro to Computer Science, Probability and Statistics, Number Theory

Experience

Teaching Assistant September 2022 — Present

University of Toronto *Mississauga, Canada*

- Lecturing, conducting office hours, preparing class materials/tutorials/tests/exams, grading assignments/exams, communicating with TAs.

Research Assistant 4 May 2021 — August 2022

Rauscher Lab, University of Toronto *Mississauga, Canada*

- Conceptualizing and testing dimensionality reduction methods for protein simulation data to increase interpretability
- Performing quantitative and qualitative analyses of a dimensionality reduction method based on variational autoencoders
- Building Markov models of protein simulations to discover the underlying dynamics
- Utilizing the University's high-performance computing resources (Niagara and MIST) to train neural networks and run extensive protein simulations

3D Artist 15 June 2020 – 15 July 2020

SoyuzKhimPromProekt *Kazan, Russia*

- Produced high-quality renders of 5 civil engineering projects at the growing petrochemical facility in Nizhnekamsk
- Created a software add-on for Blender 3D in Python to automate building generation
- Utilized Blender API for fast modeling of paneled surfaces, reducing production time by 35%
- Resolved a software migration issue to produce renders by leveraging the properties of complex FBX models

Projects

Research on Numerical Methods January 2020 – April 2020

- Conducted comparative analysis of Euler, Euler-Richardson, Verlet, and Runge-Kutta methods, helping to determine the most suitable method for scientific simulation problems
- Developed simulations of physical phenomena in Java to attain quantifiable properties of the methods
- Applied linear regression to approximate relative error functions

lobach.net October 2020 – Present

- Developed a Timetable web application for a lyceum (upper-secondary school)

Talks and Posters

UToronto Mississauga SURF 2022 - Decoding Protein Dynamics with Machine Learning

UToronto Mississauga Smarti Gras 2021 - Searching for Conformational States in the Dynamics of Protein Crystals

Awards

UTM Undergraduate Research Grant 2022

- Grant by University of Toronto Mississauga to support undergraduate research

University of Toronto International Scholar 2021

- Scholarship of *180.000 CAD* for undergraduate studies

Finals of International PhysTech Olympiad in Physics 2021

- prize-winner, top 1%, over 12 thousand participants worldwide