Victoria Valeeva

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EXPERIENCE

Research Assistant — 4 May 2021 — Present
Rauscher Lab, University of Toronto — *Mississauga, Canada*
- Applying the concept of Markov chains to analyze the dynamics of biological macromolecules
- Using the Niagara supercomputer to run long-timescale simulations of protein crystals
- Utilizing clustering (Spectral, DBSCAN) and dimensionality reduction (PCA, UMAP) methods for data processing
- Writing reports on the project progress to be used in a paper for submission in January, 2022

Computer Assembly Technician — 27 July 2020 — 21 August 2020
ICL Techno — *Kazan, Russia*
- Implemented a new assembly system, that improved manufacturing performance by 28%
- Created a simulation of assembly on the transporter in C++ and Python to quantify the analysis
- Assembled over 250 laptops and PCs daily for families in need and retailers
- Prepared and sorted over 500 hardware components daily necessary for assembly

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

AWARDS

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

National Olympiad in English Language — 2021
- absolute winner, top 0.5% in Russia

Canadian Senior Mathematics Contest — 2020
- prize-winner, top 12 among 8394 participants worldwide

EDUCATION

University of Toronto — Mississauga, Canada
Honours Bachelor of Science - HBSc, Computer Science — *2021 - 2025*

Online School of Moscow Institute of Physics and Technology — Moscow, Russia
Advanced courses in Physics, GPA 4.95 / 5.0 — *September 2019 - May 2021*