Anton Sugolov

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Education

University of Toronto Sep. 2020 – Present
H.B.Sc. Mathematics *3.83*

- Second year student pursuing Mathematics Specialist and Statistics Minor.
- Coursework includes Analysis I, II, Advanced ODE, Probability and Statistics I, Software Design, Algebra I, II, Topology, Combinatorics.

University of Toronto Schools Sep. 2016 – June 2020
Ontario Secondary School Diploma

Experience

Research Assistant – Statistical Genetics June 2020 – June 2021
Dr. Lei Sun, University of Toronto and Dr. Andrew Paterson, SickKids Hospital

- Conducted several practice Genome Wide Association Studies using data from the 1000 Human Genomes Project.
- Used PLINK v1.90 to perform quality control, association, and principal component analysis of data for GWAS.
- Performed exploratory statistical analyses on the NHGRI-EBI catalogue of Genome-Wide Association Studies.
- Prepared and presented a GWAS workshop for UTS students.

Research Assistant – Mathematics June 2021 – Sep. 2021
Dr. Pawel Pralat and Dr. Constantinos Georgiou, Ryerson University

- Contributed to the exploration of a family of pilgrimage problems on the unit disk.
- Worked towards an optimal algorithm for the discovery/evacuation of two exits by two searchers.
- Explored various algorithms to determine time bounds for evacuation using Sage and Mathematica.

Projects

GWAS Workshop June 2021
Dr. Lei Sun, University of Toronto and Dr. Andrew Paterson, SickKids Hospital

- Compiled a GWAS manual for using PLINK v1.90, R, and LocusZoom and documenting key statistical concepts.
- Lead R and PLINK tutorial sessions to conduct a GWAS of LRAP gene expression from 1KG project individuals.
- Discussed big data visualization, population stratification, and reproducibility with participants.
- Received funding from the Faculty of Arts and Science to conduct a similar workshop for Undergraduate Statistics students in February 2022.

ML/AI Projects
Independent

- Completed multiclass classification exercise with iris dataset using Keras/TensorFlow in Python.
- Created a website that matches facial emotion in uploaded images to the closest in a set of reaction images using Python FER library.

Course Scheduling Application December 2021
CSC207: Software Design

- Created a Java-based course scheduler using the UofT API that allows students to generate schedules with specific parameters (exclude conflicts, enforce times with no classes, minimum RateMyProf ratings).
- Implemented SOLID Design principles, Design Patterns, and used Clean Architecture to organize control flow.
- Used a GitHub workflow with other students to complete the project.

Technical Skills

Languages: Python, R, Java, SageMath
Markup tools: LaTeX, HTML
Operating Systems: Windows, Manjaro/Arch Linux
Other: PLINK, Github, Microsoft Office, Shell

Honours

Regents In-Course Scholarship September 2021
Victoria College

- Awarded on the basis of academic performance.

Faculty of Arts and Science, Pedagogical Innovation and Experimentation May 2021
University of Toronto

- Grant to conduct a GWAS workshop for Undergraduate Statistics students in February 2022.

University of Toronto Scholars Program September 2020
University of Toronto

Ontario Scholar of Merit June 2020
Ontario Ministry of Education