NIKOLETT TOTH

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EXPERIENCE

Teaching Assistant

University of Guelph | 2023

Taught Introduction to Programming to over 200 students, covering fundamental concepts such as control and data structures, functions, files, and recursion.

- Demonstrated proficiency with the Linux command line interface and SSH server use, supporting students in gaining competence with these tools.
- Assisted in crafting assignment outlines and wrote comprehensive assignment solutions in C to evaluate students' grasp of essential programming skills.
- Worked collaboratively with students to troubleshoot and debug their code during office hours and labs, alleviating confusion and bolstering their confidence in programming.

Research Positions

Dr. Daniel Gillis, Dr. Jarrett Phillips, Dr. Robert Hanner | 2024 - Present

Applied association rules mining to eDNA datasets, identifying key physicochemical factors affecting eDNA sample concentrations to enhance the reliability of eDNA sampling for conservation efforts.

- Developed custom R functions to facilitate data discretization, enable comparison of association rule sets, and visualize mined data.

Dr. Scott Krayenhoff | 2023

Aided in the development of a novel approach for modelling pedestrian heat exposure in cities to improve climate change projections and guide urban planning decisions.

- Ran programs on Supercomputer Cedar to process land use data, preparing the WRF climate model for simulations on end-of-century heat stress in Miami.

Dr. Claudia Wagner-Riddle | 2021 - 2022

Independently led a project comparing greenhouse gas emissions from diverse and conventional crop rotations, contributing to published research on the use of alternative farming practices to address climate change.

- Organized and analyzed three years of emissions data in R and Excel to derive accurate estimations of net greenhouse gas fluxes.
- Performed regular maintenance duties at the Elora Research Station to ensure the smooth operation of equipment and facilities; responsibilities included collecting environmental samples, troubleshooting faulty meteorological instruments, and tending to crops.

EDUCATION

Computer Science (B.Comp.)

University of Guelph | 2023 - Present

Relevant courses: Discrete Mathematics I & II, Structure and Application of Microcomputers, Analysis & Design of Computer Algorithms, Operating Systems, Software System Development & Integration, Object Oriented Programming, Data Structures

Environmental Science (B.Sc. (Env.))

University of Guelph | 2018 - 2023

Relevant courses: Environmental Data Analysis, Environmental Instrumentation, Statistics

PROJECTS

Mancala

2023 | Java

Developed text and graphical UI-based implementations of the board game Mancala in Java, enhancing proficiency in object-oriented principles such as encapsulation, abstraction, polymorphism, and inheritance.

- Created an extensive test harness with JUnit to validate the program's robustness and reliability.
- Augmented the game's functionality by adding features such as saving and loading, player profiles, and alternative rule sets.
- Leveraged Gradle as the build tool, streamlining the project's build and dependency management processes.

AWARDS

Dean's Scholarship (2022)

For achieving the Dean's Honours list over several consecutive semesters.

Robert Harcourt Scholarship (2021)

For achieving the highest cumulative average upon entering the third year of study in Environmental Science.

J.D. MacLachlan Scholarship (2018)

For entering the University of Guelph with the highest admission average.