Daniel Krasnov

Vancouver BC   (604) 302-9120   danielakrasnov@outlook.com

Skills

Languages: Python (TensorFlow, Scikit-learn, Pandas, NumPy), R, Julia, Java, Rust, SQL

Methods: Anomaly Detection, Bayesian Statistics, Time-series, NLP, Computer Vision, Deep Learning

Tools: Git, Tableau, Power BI, Shiny, AWS (S3, EC2), Databricks

Education

McGill University   Aug 2024 – Apr 2026

M.Sc - Mathematics and Statistics
- GPA: 3.83/4.0

The University of British Columbia (Okanagan)   Sept 2020 – Apr 2024

Hons. B.Sc - Data Science
- GPA: 4.00/4.33

Research Positions

UBC Statistical Machine Learning Laboratory, Kelowna, BC   May 2024 – Aug 2024

NSERC USRA Research Assistant
- Developed novel algorithms for fuzzy clustering of mixed-type data using a flexible distance metric and reinforcement learning-selected bandwidths.
- Engineered parallelized, scalable pipelines in Python, improving runtime efficiency and reliability of large-scale experiments.
- Prepared manuscript for submission to IEEE Transactions on Fuzzy Systems.

UBC Department of Statistics, Kelowna, BC   Jan 2024 – Aug 2024

Research Assistant
- Applied probabilistic topic modeling and NLP to curriculum data, generating embeddings that support interactive recommendation systems.
- Developed and deployed an R shiny app, integrating a course recommendation system, student grade predictions, and interactive curriculum panning visualizations to enable data-driven curriculum design.

UBC Department of Statistics, Kelowna, BC   May 2023 – Aug 2023

Research Assistant (Co-op)
- Released an open-source R package CurricularAnalytics ↗ (6,000+ downloads) increasing accessibility of data-driven curriculum design tools.
- Built Causal inference models to estimate student grade trajectories, informing redesign of UBC's Data Science curriculum.

UBC Department of Statistics, Kelowna, BC   Oct 2022 – Apr 2023

Research Assistant
- Designed and monitored end-to-end image-analysis pipelines for mammography data, incorporating data validation, sampling, preprocessing, and segmentation stages.

- Implemented Monte Carlo simulation workflows to test robustness and stability of segmentation algorithms under varying noise conditions.
- Collaborated closely with clinical partners, translating technical results into practical recommendations for radiology workflows.
- first author of a peer-reviewed manuscript published in *Entropy* (55+ citations) and presented work at several conferences.

Teaching Positions

McGill University, Montréal, QC   Jan 2025 – Apr 2025

Undergraduate Mentor — Directed Reading Program

- Supervised an undergraduate student's independent research project in mathematics and statistics.
- Provided one-on-one coaching in research methods, technical writing, and presentation skills.
- Guided the student through the process of writing a research paper and preparing a conference presentation.
- Supported the student in presenting their work at a mathematics conference.

McGill University, Montréal, QC   Aug 2024 – Dec 2024

Teaching Assistant — Statistics

- Teaching assistant for *Principles of Statistics I*, a second-year statistics course.
- Designed and delivered weekly labs in R, covering probability and statistical inference.
- Taught tutorials to reinforce lecture material and support student learning.
- Marked assignments and exams.
- Invigilated midterm and final examinations.

The University of British Columbia — Okanagan, Kelowna, BC   Sept 2023 – Dec 2023

Teaching Assistant — Business Statistics

- Teaching assistant for *Business Statistics*, a first-year statistics course.
- Instructed weekly labs to introduce students to data analysis and applied statistics.
- Marked assignments and exams.
- Invigilated midterm and final examinations.

Volunteer Service

McGill University, Committee Member — Equity, Outreach, Montréal, QC   Aug 2024 – Apr 2025

and Student Well-Being Committee

- Collaborated with faculty, staff, and students to promote equity and inclusivity within the department.
- Contributed to initiatives supporting student well-being, accessibility, and outreach.
- Provided a graduate student perspective to guide departmental policy and student support efforts.

Grants and Awards

Fonds de recherche du Québec – Nature et technologies (FRQNT)   Apr 2025
- Amount — $26,667 CAD

NSERC Undergraduate Student Research Award (USRA)   May 2024

- Amount — $6,000 CAD

CMPS Research Award (Department of CS, Math, Physics & Statistics), UBCO Apr 2024

Deputy Vice-Chancellor Scholarship, UBCO Sept 2023
- Amount — $1,000 CAD

CMPS 3rd Year Data Science Award, UBCO Aug 2023

Deputy Vice-Chancellor Scholarship, UBCO Sept 2022
- Amount — $1,000 CAD

Deputy Vice-Chancellor Scholarship, UBCO Sept 2021
- Amount — $500 CAD

Dean's List, UBC Okanagan 2020 – 2024

Publications

Fuzzy C-Means Clustering — A Review of Applications in Breast Cancer Detection July 2023
Daniel Krasnov, Dresya Davis, Kaden Malott, Yulin Chen, Xiaowei Shi, Alexander Wong
10.3390/e25071021 [↗] (Entropy)

Publications in Preparation

Mixed-Type Fuzzy Clustering with Reinforcement Learning-Selected Bandwidths 2025
Daniel Krasnov, Nicolas Bosteels, Dr. John Thompson
In preparation for submission to IEEE Transactions on Fuzzy Systems

Exploring Latent Topics in Data Science Curricula 2025
Daniel Krasnov, Dr. Irene Vrbik
In preparation for submission to the Journal of Statistics and Data Science Education

Bayesian Nonparametric Detection of Anomalies in Multivariate Functional Data 2025
Daniel Krasnov, Dr. David Stephens
In preparation

Published Software

CurricularAnalytics (R package) 2024
- Comprehensive R Archive Network (CRAN) — https://cran.r-project.org/web/packages/CurricularAnalytics/

FuzzyPySeg (Python package) 2023
- https://github.com/Danyulll/FuzzyPySeg/tree/main

Presentations

Multidisciplinary Undergraduate Research Conference (MURC), UBC — Vancouver, Canada (2023): Mahalanobis Distance-based FCM in Breast Cancer Detection

CMPS Undergraduate Research Conference, UBCO — Kelowna, Canada (2023): Application of Mahalanobis-Distance Based FCM in Breast Cancer Imaging

TLEF & ALT-2040 Celebrate Learning Week, UBC — Vancouver, Canada (2023): Exploring Latent Topics in Data Science

Recent Research Progress in Advanced Statistical Methods — Squamish, Canada (2023): Mahalanobis Distance-based FCM in Breast Cancer Detection

CMPS Undergraduate Research Conference, UBCO — Kelowna, Canada (2023): Exploring Latent Topics in Data Science Curricula

UBC Okanagan Interdisciplinary Student Health Conference, UBCO — Kelowna, Canada (2023): Mahalanobis Distance-based FCM in Breast Cancer Detection