STEFAN VLADUSIC

Toronto, ON Canada
Upon Request
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Master's of Computational Mathematics graduate searching for an entry position in a data analyst, machine learning engineer, or data science role. Particularly interested in climate-related work.

Knowledgeable in machine learning, and computational methods. Passionate about statistics.

EDUCATION

University of Waterloo | Master's in Computational Mathematics

SEPT 2021 – JAN 2023

- Supervised by Professors Chris Bauch and Chris Fletcher.
- Coursework covered machine learning, climate modeling, and advanced numerical analysis.
- Recipient of Keith & Debbie Geddes and Waterloo Graduate Scholarships (valued at $6,000).
- Graduated with a 4.0/4.0 cGPA.

McMaster University | Master's in Financial Mathematics

SEPT 2020 – AUG 2021

- Courses on stochastic calculus, statistics, and risk management.
- Graduated with High Distinction.

University of Toronto | Honours Bachelor of Science

SEPT 2015 – JAN 2020

- Graduated with High Distinction in Physics and Philosophy.
- Awarded $7,000 in academic scholarships.

SKILLS

- Programming – Proficient in Python, including the TensorFlow, sklearn, and pandas libraries. Familiar with Git and bash scripting. Learning SQL and Julia.
- Technical Knowledge – Numerical analysis (solving linear systems, ODEs, PDEs), statistics (hypothesis testing, regression analysis, generalized linear models), machine learning (deep networks, clustering, random forest, XGBoost)
- Languages: English (native), Serbo-Croatian (fluent), French (Professional Working Proficiency)
- Microsoft Office

WORK EXPERIENCE

Research Assistant | University of Waterloo

SEPT 2022 – JAN 2023

- Trained hybrid CNN-LSTM neural networks to detect climate early warning signals of tipping points of Atlantic circulation.
- Wrote a numerical solver for simple ocean models and generated a database of 500,000 time series to train and test the hybrid networks.
- Hybrid neural networks outperform more generic state-of-the-art network in accuracy, precision, and recall.
- Implemented with bash scripting and Python via the tensorflow, sklearn, and statsmodels libraries.

Junior Data Scientist | Praemo Inc.

MAY 2022 – AUG 2022

- Created a production-level anomaly detection model for industrial time series data in a two-member team.
- Model uses a combination of machine learning clustering techniques and traditional statistical methods (bootstrapping, Levene's test, etc.).
- Involved both in the formal mathematical model components, as well as the model's implementation in Python.

Teaching Assistant | University of Waterloo

SEPT 2021 – APRIL 2023

- Responsibilities include grading students and running office hours for first year linear algebra and introductory proof courses (MATH 115, MATH 135, and MATH 136).

Model Analyst Intern | Bank of Nova Scotia

MAY 2021 – AUG 2021.

- Created and maintained data pipeline and scripts to generate reports on market trends and key risk metrics for bank portfolios. Implemented in Python, SQL and PowerShell.
- Wrote Python script that computes initial margin for large derivatives transactions with small team.
- Wrote reports summarizing quantitative features and limitations of exotic option pricing models for internal audits.

PROJECTS

Pawpularity Contest (Kaggle) | Python

- Trained an ensemble classifier based on the SWIN transformer models to predict pet adoption webpage popularity from embedded webpage images.
- Ensemble performed better than 95% of classifiers at time of submission (silver rank).