Konstantinos Christopher Tsiolis

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PROFILE

I am a first-year Ph.D. student in Statistics at the University of Toronto and the Vector Institute under the supervision of Prof. Murat Erdogdu. I am interested in using tools from high-dimensional probability to predict the behaviour of stochastic optimization methods in machine learning.

EDUCATION

University of Toronto — Toronto, ON
Doctor of Philosophy (Ph.D.) in Statistics — *Sep. 2023 – Present*
- Supervisor: Prof. Murat Erdogdu

McGill University — Montreal, QC
Master of Science (M.Sc.) in Mathematics and Statistics — *Jan. 2022 – Aug. 2023*
- Supervisor: Prof. Adam Oberman
- Cumulative GPA: 4.0/4.0
- Thesis Title: Contrastive Learning as Kernel Approximation
- Research topics: Self-supervised learning, deep learning theory, random matrix theory

McGill University — Montreal, QC
Bachelor of Science (B.Sc.) in Honours Mathematics and Computer Science — *Sep. 2018 – Dec. 2021*
- Cumulative GPA: 3.99/4.0

RESEARCH EXPERIENCE

Undergraduate Research Assistant — Summer 2021
Mila / McGill University Department of Mathematics and Statistics — *Montreal, QC*
- Supervisor: Prof. Adam Oberman
- Developing, implementing, and testing novel approaches in knowledge distillation and self-supervised representation learning for computer vision
- Implemented a pipeline in PyTorch to run, test, and log experimental results of our approaches

Undergraduate Research Assistant — Summer 2019 and 2020
Mila / McGill Reasoning and Learning Lab — *Montreal, QC*
- Supervisor: Prof. Jackie Chi Kit Cheung
- Natural language processing research on word embeddings and computational pragmatics
- Building, evaluating, and analyzing a novel method for combining word embeddings from different sources
- Conducting a detailed literature review
- Writing research proposals and summaries
- Presenting my work at reading groups and conferences
- Publication at a top NLP conference (COLING)

PUBLICATIONS (* DENOTES EQUAL CONTRIBUTION)

Jingyi He*, **KC Tsiolis***, Kian Kenyon-Dean*, and Jackie Chi Kit Cheung. 2020. Learning Efficient Task-Specific Meta-Embeddings with Word Prisms. *Proceedings of the 28th International Conference on Computational Lingusitics*, pages 1229-1241.

TEACHING

Teaching Assistantships
- Fall 2022: Teaching Assistant for MATH 222 (Calculus 3) at McGill University
    * Responsibilities: 2 hours of tutorial per week, 2 office hours per week, invigilating and grading exams, running exam review sessions
- Fall 2021: Course Assistant for COMP 251 (Algorithms and Data Structures) at McGill University
    * Equivalent role to a teaching assistant
    * Responsibilities: Managing online assignment platform, answering student questions in online forum, 1 office hour per week, designing exercises, grading exams

Academic Lecturer at the McGill Artificial Intelligence Society   Mar 2020 – Apr 2021
- Unpaid volunteer role as part of a student club
- Giving lectures and writing a textbook for a student-run machine learning course
- Processing applications and conducting interviews
- Holding office hours and one-on-one meetings with students

SKILLS

Languages: English (fluent), French (fluent), Greek (intermediate)
Programming Languages: Python, Java, Bash, C, MATLAB, R, JavaScript, OCaml
Libraries: PyTorch, Tensorflow, NumPy, scikit-learn, pandas, Matplotlib
Experience with Unix/Linux

AWARDS

Queen Elizabeth II Graduate Scholarship in Science and Technology (QEII-GSST)   Jul. 2023
- Awarded to outstanding students pursuing a Ph.D. at an Ontario university

Faculty of Arts and Science Top (FAST) Doctoral Fellowship   Jan. 2023
- 4-year fellowship awarded to outstanding Canadian Ph.D. students at the University of Toronto

FRQNT Master's (B1X) Research Scholarship   Jun. 2022
- Awarded to outstanding research M.Sc. students in Quebec
- Awarded in 2022, but funding deferred to 2023 due to NSERC award

NSERC Canada Graduate Scholarships - Master's Program   May 2022 – Apr. 2023
- Awarded to outstanding research M.Sc. students in Canada

Wing Hing Chan Scholarship in Science   Aug. 2021
- Awarded to an outstanding McGill student in the Faculty of Science

Alan Shaver Scholarship   Aug. 2021
- Awarded to an outstanding McGill student in the Faculty of Science

IVADO Undergraduate Introduction to Research Scholarship   May 2021 – Aug. 2021
- Funding awarded to undergraduate students pursuing summer research in data science

Anne Molson Scholarship   Aug. 2020
- Awarded to a McGill student in the Physical Sciences prior to their final year

Emily Ross Crawford Scholarhsip   Aug. 2020
- Awarded to a McGill student in the Faculty of Science based on academic achievement in the first two years

NSERC Undergraduate Student Research Award   May 2020 – Aug. 2020
- Funding awarded to undergraduate students pursuing summer research in natural sciences or engineering

John Mahon Scholarship   Aug. 2018 – Dec. 2021
- Annually renewable entrance scholarship at McGill University