

ELENI TRIANTAFILLOU

PERSONAL DATA

PLACE AND DATE OF BIRTH: Canada, 8 August, 1993
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GENDER: Female

RESEARCH INTERESTS AND RECENT HIGHLIGHTS

My main research interest is centered around the pursuit of intelligent systems that are *flexible* and *adaptable*, supporting the rapid acquisition of new knowledge using only a few examples.

A few research directions that I'm excited about:

1. Building systems that can effectively ingest large amounts of diverse data, and organize their acquired knowledge in a way that can be easily re-purposed for ultimately solving new classification tasks originating from entirely unseen datasets or domains.
 - We recently created the [Meta-Dataset](#) benchmark to facilitate research on this.
2. Understanding the nature of representations that enable few-shot learning. What is the role of meta-learning / episodic training towards that goal?
 - We [studied](#) a more challenging context-dependent variant of few-shot classification, and discovered that *unsupervised learning* is crucial for that problem.
 - Our [ongoing work](#) investigates the role of the episodic training paradigm through the lens of shot-specialization.

EDUCATION

JANUARY 2017 - PRESENT	PhD Degree in COMPUTER SCIENCE, University of Toronto, Machine Learning GROUP Advisors: Richard Zemel and Raquel Urtasun
SEPTEMBER 2015 - JANUARY 2017	MSc Degree in COMPUTER SCIENCE University of Toronto, Machine Learning GROUP Advisors: Richard Zemel and Raquel Urtasun
SEPTEMBER 2011 - APRIL 2015	Bachelor Degree at the University of Toronto SPECIALIST IN Computer Science MINOR IN Mathematics CUMULATIVE GPA: 3.76 (top 2%) (High Distinction)
SEPTEMBER 2007 - JUNE 2011	Experimental Lyceum of the University of Patras, Greece. Average: 97%.

SCHOLARSHIPS, AWARDS, AND DISTINCTIONS

- **Top reviewer awards:** ICLR 2021 (outstanding reviewer), ICML 2019 (top 5%), NeurIPS 2020 (top 10%), NeurIPS 2018 (top 218 reviewers), ICML 2020 (top 33%).

- SPRING 2019: NSERC **Alexander Graham Bell Canada Graduate Scholarship - Doctoral (CGS D)** award (70K CAD over 24 months). This is the most prestigious NSERC scholarship for graduate study in Canada.
- FALL 2016 - FALL 2017: NSERC **Canada Graduate Scholarship-Masters's Program** award (17,500 CAD over 12 months)
- FALL 2015 - FALL 2016: **Ontario Graduate Scholarship (OGS)** award (15,000 CAD)
- 2015: **St. Michael's Silver Medal** for Academic Excellence
- 2012 - 2015: Member of the **Dean's List**, UNIVERSITY OF TORONTO
- FALL 2014: Received an **In-Course Scholarship** (1,500 CAD) from St. Michael's College, University of Toronto (circa top 3%) for my strong academic record
- MAY-AUGUST: **NSERC Summer Research Award** (4,500 CAD)
- 2013: Received a scholarship by the **Greek National Scholarship Institution (IKY)** (1,700 €) for being the highest ranked student entering Greek university Computer Science departments (tenable at the UNIVERSITY OF PATRAS)
- FALL 2012: Received an **In-Course Scholarship** (1,500 CAD) from St. Michael's College, University of Toronto (circa top 3%) for my strong academic record
- 2010: Awarded by the **Hellenic Mathematical Society** for passing to the second round of the National Mathematics Olympiad (top 5% of tens of thousands students)
- 2009: Awarded by the **Hellenic Mathematical Society**, as above

PUBLICATIONS

- **Learning a Universal Template for Few-shot Dataset Generalization.** Eleni Triantafillou, Hugo Larochelle, Rich Zemel, Vincent Dumoulin. ICML 2021.
- **Meta-dataset: A dataset of datasets for learning to learn from few examples.** Eleni Triantafillou, Tyler Zhu, Vincent Dumoulin, Pascal Lamblin, Kelvin Xu, Ross Goroshin, Carles Gelada, Kevin Swersky, Pierre-Antoine Manzagol, Hugo Larochelle. ICLR 2020.
- **Meta Learning for Semi-Supervised Few-Shot Classification.** Mengye Ren, Eleni Triantafillou*, Sachin Ravi*, Jake Snell, Kevin Swersky, Joshua B. Tenenbaum, Hugo Larochelle, Richard S. Zemel. ICLR 2018.
- **Few-Shot Learning Through an Information Retrieval Lens.** Eleni Triantafillou, Richard Zemel, Raquel Urtasun. NeurIPS 2017.
- **Non-Deterministic Planning with Temporally Extended Goals: LTL over finite and infinite traces.** Alberto Camacho, Eleni Triantafillou, Christian Muise, Jorge Baier, and Sheila McIlraith. AAAI 2017.

WORKSHOP PAPERS, PREPRINTS AND IN SUBMISSION

- **Learning Flexible Classifiers with Shot-CONDitional Episodic (SCONE) Training.** Eleni Triantafillou, Vincent Dumoulin, Hugo Larochelle, Richard Zemel. Meta-Learning workshop at NeurIPS 2020. *Newer and extended version under submission.*
- **Flexible Few-Shot Learning with Contextual Similarity.** Mengye Ren*, Eleni Triantafillou*, Kuan-Chieh Wang*, James Lucas*, Jake Snell, Xaq Pitkow, Andreas S. Tolias, Richard Zemel. In submission to CVPR.

- **Few-shot Out-of-Distribution Detection.** Kuan-Chieh Wang, Paul Vicol, [Eleni Triantafillou](#), Richard Zemel. UDL workshop at ICML 2020 (spotlight).
- **Few-shot Learning for Free by Modelling Global Class Structure.** Xuechen Li*, Will Grathwohl*, [Eleni Triantafillou](#)*, David Duvenaud, Richard Zemel. Meta-Learnig workshop at NeurIPS 2018.
- **Towards Generalizable Sentence Embeddings.** [Eleni Triantafillou](#), Jamie Ryan Kiros, Raquel Urtasun, Richard Zemel. RepL4NLP workshop at ACL 2016.
- **A Unifying Framework for Planning with LTL and Regular Expressions.** [Eleni Triantafillou](#), Jorge A. Baier, Sheila A. McIlraith. MOCHAP workshop at ICAPS 2015.
- **Google AI blog post on Meta-Dataset.** [Eleni Triantafillou](#) and Vincent Dumoulin.

RESEARCH INTERNSHIPS AND INDUSTRIAL EMPLOYMENT

SEPTEMBER 2020 - APRIL 2021	Student Researcher, Google Brain, Montreal supervised by Vincent Dumoulin and Hugo Larochelle
SUMMER 2020	Student Researcher, Google Brain, Montreal supervised by Hugo Larochelle
SEPTEMBER 2019 - MAY 2020	Student Researcher, Google Brain, Montreal supervised by Hugo Larochelle
SUMMER 2019	Research intern, Google Brain, Montreal supervised by Hugo Larochelle
OCTOBER 2018 - FEBRUARY 2019	Student Researcher, Google Brain, Toronto supervised by Hugo Larochelle
SUMMER 2018	Software Developer Intern, Google Brain, Montreal supervised by Hugo Larochelle
SUMMER 2015	Microsoft Research (MSR) , Cambridge UK ‘Bright minds’ intern under Antonio Criminisi, Machine Learning and Perception group.
SUMMER 2013	University of Glasgow, UK supervised by Prof. Stephen Brewster, HCI group.

TEACHING EXPERIENCE

I have been a TA for the following courses:

- CSC411: INTRODUCTION TO MACHINE LEARNING (4 times)
- ECE521: INFERENCE ALGORITHMS AND MACHINE LEARNING (ELECTRICAL ENGINEERING)
- CSC384: INTRODUCTION TO ARTIFICIAL INTELLIGENCE
- CSC165: MATHEMATICAL EXPRESSION AND REASONING FOR COMPUTER SCIENCE (5 times)

REFEREE SERVICE

- Conference reviewer for: CVPR 2021, ICLR (2019, 2020, 2021), NeurIPS (2018, 2019, 2020, 2021), ICML (2019 and 2020, 2021 - ‘expert reviewer’), UAI 2018, IROS 2021.
- Member of the PC for several workshops: S2D-OLAD at ICLR 2021, Meta-Learning at NeurIPS 2020, AMTL at ICML 2019, LLD at ICLR 2019, Meta-Learning at NeurIPS 2018, Meta-Learning at NeurIPS 2017, LLD at NeurIPS 2017, WiML at NeurIPS 2017, WiCV at CVPR 2018 and 2021.

INVITED TALKS

- **Learning Flexible Episodic Classifiers with Shot Conditional Training.** Google Brain Montreal, summer 2020.
- **Few-shot Classification Under Dataset Shift.** Vector Endless Summer School: Dataset Shift and COVID-19. July 2020.
- **On Recent Progress in Few-shot Classification.** Tea talk series of the African Institute for Mathematical Sciences (AIMS). June 2020.
- **Regularization for Few-shot Learners.** Google Brain Montreal, summer 2019.
- **Few-shot learning in vision applications.** Vector Endless Summer School: Computer Vision. May 2019.
- **A five minute overview of few-shot learning.** Research madness talk during UofT's grad visit day. March 2019.
- **A large-scale benchmark for few-shot classification.** Google Brain Montreal, summer 2018.
- **Recent Methods for (Semi-Supervised) Few-shot Learning.** Microsoft Research Lab (Maluuba), Montreal. Feb 2018.
- **Few-shot learning of new words.** Vector Endless Summer School, November 2017.
- **(Semi-Supervised) Few-shot Learning.** Research madness talk during UofT's grad visit day. March 2018.
- **Introduction to Few-shot Learning.** University of Toronto Machine Intelligence Student Team (UTMIST), November 2017.

COMMUNITY INVOLVEMENT

- Member of Vector Institute's Equity, Diversity and Inclusion (EDI) Group.
- Organizer of the Meta-Learning reading group at the University of Toronto / Vector Institute, jointly with Mengye Ren (2019 - present).
- Leader of the breakout session on few-shot learning in the Pan-Canadian Self-Organizing Conference on Machine Learning (PCSOCMLx 2019). November 2019.

OTHER INTERESTS AND ACTIVITIES

- Cooking and [food blogging](#).
- Piano playing, singing and [song writing](#).
- Dancing (especially hip hop and contemporary). I was recently part of the Only Human Dance Collective group at the University of Toronto and took part in their yearly performance.