NIVASINI ANANTHAKRISHNAN

nivasini.github.io ◇ nanantha@uwaterloo.ca

EDUCATION

University of Waterloo September 2019 - Present
M.Math. in Computer Science
Advisor : Prof. Shai Ben-David
Coursework : Concentration inequalities, Privacy and fairness in machine learning, Security and Privacy for AI, Optimization for data science

University of Waterloo August 2019
B.Math. *with Distinction - Dean's Honours List (Highest Honours)*
Majors : Computer Science and Combinatorics and Optimization

PUBLICATIONS

- **On learnability with computable learners.** *International Conference on Algorithmic Learning Theory (ALT), 2020* (PDF)
  Sushant Agarwal, Nivasini Ananthakrishnan, Shai Ben-David, Tosca Lechner, Ruth Urner.

MANUSCRIPTS IN PREPARATION

- **Classification confidence scores with point-wise guarantees.** *Manuscript in submission.*
  Nivasini Ananthakrishnan, Shai Ben-David, Tosca Lechner.
- **Multi-level regret minimization for multi-armed bandits.** *Manuscript in submission.*
  Nivasini Ananthakrishnan, Lin Yang, Csaba Szepesvári.
- **A different view of fair data representation.** *Manuscript in submission.*
  Tosca Lechner, Nivasini Ananthakrishnan, Sushant Agarwal, Shai Ben-David.

RESEARCH EXPERIENCE

University of Waterloo Waterloo, Canada
Graduate research assistant *September 2018 - Present*

Advisor : Prof. Shai Ben-David
Research in topics such as interpretability and fairness in Machine Learning and distribution dependent generalization bounds.

Alberta Machine Intelligence Institute Edmonton, Canada
Research intern *May 2020 - Present*

Advisors : Prof. Csaba Szepesvári, Prof. Lin Yang
Research in multi-armed bandits with multiple objectives.

University of Waterloo Computational Health Informatics Lab Waterloo, Canada
Undergraduate research assistant *May 2018 - August 2018*

Advisor : Prof. Jesse Hoey
Used Natural Language Processing techniques to develop algorithms to evaluate quality of online content on Alzheimer's Disease.

University of Waterloo Databases department Undergraduate research assistant
Waterloo, Canada *September 2017 - December 2017*

Advisor : Prof. Grant Weddell
Studied addition of restricted inverse features to a Description Logic dialect. Investigated optimizing the handling of equality relation in a database management system's reasoner.

INDUSTRY EXPERIENCE

SideFX Software Toronto, Canada
Software Developer Intern *May 2017 - August 2017*

Revamped the mesh parameterization tool by increasing accuracy and adding features for more user control. Implemented research on computational optimization techniques and image segmentation.

IBM - J9 Virtual Machine Team Ottawa, Canada
Software Developer Intern *May 2016 - August 2016*

Designed, prototyped and documented an implementation of proposed Java feature - Value Types in the Virtual Machine.

ACTIVITIES

- Teaching Assistant for courses - Statistical and computational foundations of Machine Learning (CS 485), Logic and computation (CS 245), Operating systems (CS 350).
- Reviewer for journal Neurocomputing (2020).
- Technovation mentor - Mentored team of high school girls to build mobile app (January 2019 - December 2019).

AWARDS

- NSERC Canada Graduate Scholarship - Masters, 2020.
- David R. Cheriton Graduate Scholarship, 2019-2020.
- NSERC Undergraduate Research Award, 2019.