

NIVASINI ANANTHAKRISHNAN

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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, 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 Uerner.

PAPERS UNDER REVIEW

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

AWARDS AND GRANTS

- NSERC (National Science and Engineering Research Council) Canada Graduate Scholarship - Masters, 2020.
- David R. Cheriton Graduate Scholarship, 2019-2020.
- NSERC Undergraduate Research Award, 2019.

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 and MDPs with multiple objectives.

University of Waterloo Computational Health Informatics Lab*Undergraduate research assistant*

Waterloo, Canada

*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*Waterloo, Canada*

Undergraduate research assistant

*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***Software Developer Intern*

Toronto, Canada

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*Software Developer Intern*

Ottawa, Canada

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).