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## RESEARCH INTERESTS

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Combinatorial Optimization, Approximation Algorithms, Extremal Graph Theory

## EDUCATION

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**Carnegie Mellon University** – Pittsburgh, USA 2016-2021E

*Doctoral Candidate*

- Program: Algorithm, Combinatorics, and Optimization
- Advisor: R. Ravi

**University of Waterloo** – Waterloo, Canada 2015-2016

*Master of Mathematics*

- Department of Combinatorics and Optimization
- Thesis: Cyclically 5-Connected Graphs
- Advisor: Luke Postle

**University of Waterloo** – Waterloo, Canada 2011-2014

*Bachelor of Mathematics*

- Department: Statistics and Actuarial Science

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## PUBLICATIONS

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### Minimizing the Number of Edges in $K_{s,t}$ -Saturated Bipartite Graphs

- Authors: Debsoumya Chakraborti, Da Qi Chen, Mihir Hasabnis
- arXiv: 2009.07651

### Vertex Downgrading to Minimize Connectivity

- Authors: Hassene Assi, Da Qi Chen, R. Ravi
- Proceedings of the 17<sup>th</sup> Scandinavian Symposium and Workshops on Algorithm Theory 2020

### Exact Results on Generalized Erdos-Gallai Problems

- Authors: Debsoumya Chakraborti, Da Qi Chen
- arXiv: 2006.04681

### Many Cliques with Few Edges and Bounded Maximum Degree

- Authors: Debsoumya Chakraborti, Da Qi Chen
- arXiv: 2003.07943

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## PRESENTATIONS

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**Bipartite Saturation**, Online November 2020

*IBS Virtual Discrete Math Colloquium*

**Graph Interdiction**, Carnegie Mellon University October 2020

*SIAM Grad Student Mini-Conference*

**Vertex Downgrading to Minimize Connectivity**, Online June 2020

*17<sup>th</sup> Scandinavian Symposium and Workshops on Algorithm Theory*

**Minimizing Cuts via the Ball-Growing Method**, Carnegie Mellon University May 2020

*Operation Research Seminar*

**On Cyclically 5-Connected Graphs**, University of Waterloo August 2016

*Graph Theory Seminar*

## **TEACHING EXPERIENCE**

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### **Carnegie Mellon University**

*Teaching Assistant*

- Business Networks 45-951 (Fall 19), Calculus in 3-D 21-259 (Fall 19, Spring 19), Differential and Integral Calculus 21-120 (Fall 18), Differential Calculus 21-111 (Spring 18), Calculus II 21-112 (Fall 17), Concepts of Math 21-127 (Spring 17), Matrix Algebra with Applications 21-240 (Fall 16)

### **University of Waterloo**

*Teaching Assistant*

- Intro to Combinatorics Math 239 (Fall 15, Winter 16), Algebra Math 135 (Summer 15), Calculus 1 Math 137 (Summer 16, Winter 15)

## **AWARDS**

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**Alexander Graham Bell Canada Graduate Scholarship – Doctoral Program** 2016-2019

**Natural Science and Engineering Research Council of Canada Undergraduate Research Assistantship** May-August 2014

*University of Waterloo*

**Piquard Family Scholarship** February 2014

**Natural Science and Engineering Research Council of Canada Undergraduate Research Assistantship** May-August 2013

*McGill University*