

## BACH L. TRAN

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### EXPERIENCES

- Data Scientist - TIKI Corporation, since October 2018
  - NLP: built an auto-corrector for Vietnamese texts.
  - Time series forecasting: building predictive models to forecast the demand of the e-commerce market.
  - Combinatorial optimization: solving the travelling salesman and the vehicle routing problems.

### EDUCATION

- **University of Edinburgh**  
Ph.D in Mathematics, September 2014 - July 2018.  
Thesis: *On  $k$ -normality and Regularity of Normal Projective Toric Varieties*  
Advisor: Milena Hering
- **University of Cambridge**  
Master of Advanced Studies in Pure Mathematics, October 2013 - June 2014.
- **University of Missouri, Columbia, MO**  
Bachelor of Science in Mathematics with Honor, January 2010 - December 2012, Summa Cum Laude.

### SKILLS

#### Professional Skills

- Time series analysis
- Machine learning
- Mathematical modeling
- Combinatorial Optimization

#### Tools

- Git
- L<sup>A</sup>T<sub>E</sub>X
- C/C++
- OpenMP
- Python
- Julia

### PUBLICATIONS

#### To appear

- A Reider-type Theorem for Smooth Projective Toric Surfaces (2016).  
<https://arxiv.org/abs/1901.07685>
- The Eisenbud-Goto Conjecture for Weighted Projective Toric Fano Varieties (2018).  
<http://arxiv.org/abs/1902.03730>

#### Preprints

- On  $k$ -normality and Regularity of Normal Toric Varieties. (2017, submitted)  
<https://arxiv.org/abs/1708.04340>

### HONORS

#### Scholarships

- Edinburgh Global Research Scholarship, University of Edinburgh, 2015.
- The Dr. Laura Wisewell Travel Scholarships, University of Edinburgh, 2015.
- School of Mathematics Studentship, University of Edinburgh, 2014-2018.
- Hazel Shelton Grabosch Scholarship in Mathematics, University of Missouri, 2012.
- Ruth Earline Taylor Allen Scholarship, University of Missouri, 2011 and 2012.
- Curator Grant-in-Aid, University of Missouri, Fall 2011 and Spring 2012.
- Phyllis Ann Heyssel Scholarship, University of Missouri, 2011.

- Awards**
- Postgraduate Student Essay Prize, School of Mathematics, University of Edinburgh, 2016.
  - Second Prize, Vietnam National Mathematical Olympiad, 2009.
- ACTIVITIES**
- William Lowell Putnam competition 2010, 2011, and 2012 participant (top 100 in 2012, top 500 in 2010 and 2011).
  - Missouri Collegiate Mathematics Competition 2011 and 2012.
  - The Mathematical Contest in Modeling 2011.
- TALKS AND PRESENTATIONS**
- Summer Workshop on Lattice Polytopes, Osaka, 2018.
  - Interactions with Lattice Polytopes, Magdeburgh, September 2017.
  - Toric Varieties Seminar, Loughborough, November 2017.
  - EDGE Seminar, Edinburgh, December 2017.
- CONFERENCES ATTENDED**
- Summer Workshop on Lattice Polytopes, Osaka, 2018.
  - Tropical Geometry, Amoebas and Polytopes, Stockholm, 2018.
  - Interactions with Lattice Polytopes, Magdeburgh, 2017.
  - GLEN Algebraic Geometry Seminar, Manchester, 2017.
  - Positivity in algebraic and complex geometry, Edinburgh, 2017.
  - Combinatorial Algebraic Geometry, Major Thematic Program at the Fields Institute, Toronto, 2016.
  - Macaulay2 Workshop, Warwick, 2016.
  - Minimal free resolutions, Betti numbers, and combinatorics, Edinburgh, 2015
  - British Algebraic Geometry Meeting, 2015-2017.
  - Summer school: Cones and positivity, Loughborough, 2015.
- TEACHING EXPERIENCE**
- Led small-group tutorials in the following courses at the University of Edinburgh:
    1. General Topology
    2. Honours Algebra Skills
    3. Proofs and Problem Solving
    4. Introduction to Number Theory
    5. Calculus and its Applications
    6. Introduction to Linear Algebra
  - Provided individual help in the drop-in MathsBase facility.
- REFEREES**
- Dr. Milena Hering  
The University of Edinburgh  
M.Hering@ed.ac.uk
  - Professor Ivan Cheltsov  
The University of Edinburgh  
I.Cheltsov@ed.ac.uk
  - Associate Professor Alexander Kasprzyk  
The University of Nottingham  
A.M.Kasprzyk@nottingham.ac.uk