

# AI FINI DELLA PUBBLICAZIONE

## Curriculum Vitae

Date: 30/09/2021

### Part I – General Information

Full Name	Tony Chi Thong Huynh
Spoken Languages	English (native), Italian (intermediate), French (intermediate)

### Part II – Education

Type	Year	Institution	Notes (Degree, Experience,...)
Bachelor's	1997-2003	Simon Fraser University, Canada	With Honours
Master's	2003-2004	University of Toronto, Canada	
PhD	2004-2009	University of Waterloo, Canada	

### Part III – Appointments

#### IIIA – Academic Appointments

Start	End	Institution	Position
01/09/2021	Current	Monash University, Australia	Research Fellow
01/09/2015	01/09/2019	Université libre de Bruxelles, Belgium	Postdoctoral Researcher
01/07/2013	01/07/2015	Università di Roma "La Sapienza", Italy	Postdoctoral Researcher
01/01/2013	30/06/2013	Simon Fraser University, Canada	Postdoctoral Researcher
01/09/2012	31/12/2012	Maastricht University, the Netherlands	Guest Researcher
01/09/2011	30/08/2012	KAIST, South Korea	Postdoctoral Researcher
01/07/2010	31/08/2011	CWI Amsterdam, the Netherlands	Postdoctoral Researcher

#### IIIB – Other Appointments

Start	End	Institution	Position
01/12/2009	30/06/2010	OANDA Corporation	Quantitative Analyst
01/01/1999	31/08/1999	Statistics Canada	Statistical Analyst
01/05/2000	31/08/2000	Statistics Canada	Statistical Analyst

### Part IV – Teaching experience

Year	Institution	Lecture/Course
2021	Monash University	MTH 3170 - Network Mathematics
2021	Monash University	MAT 1830 - Discrete Mathematics for Computer Science
2020	Monash University	MAT 1830 - Discrete Mathematics for Computer Science
2008	University of Waterloo	CO 351 - Network Flow Theory
2008	University of Waterloo	CO 350 - Linear Programming
2007	University of Waterloo	CO 342 - Introduction to Graph Theory
2006	University of Waterloo	CO 239 - Introduction to Combinatorics
2004	University of Toronto	MAT 135 - Calculus I
2003	Simon Fraser University	MACM 101 - Discrete Mathematics I
2002	Simon Fraser University	MATH 232 - Applied Linear Algebra
2001	Simon Fraser University	MATH 151 - Calculus I

### Part V - Society memberships, Awards and Honors

Year	Title
2021	Monash Postdoctoral Award for Mathematics
2005-2008	Natural Sciences and Engineering Research Council of Canada (NSERC) Doctoral Scholarship
2004	Natural Sciences and Engineering Research Council of Canada (NSERC) Master's Scholarship
2003	Natural Sciences and Engineering Research Council of Canada (NSERC) Undergraduate Research Award
2000-2002	Simon Fraser University William Lowell Putnam Competition Award
1999	Simon Fraser University Mathematics and Statistics Award
1997	Simon Fraser University Dean's Entrance Scholarship in Science

### Part VI - Funding Information [grants as PI-principal investigator or I-investigator]

Year	Title	Program	Grant value
2015	Matroid Structure Theory	Young Talent Researcher's Program, Government of Brazil	€ 83000 over 3 years (declined)

### Part VII – Research Activities

Keywords	Brief Description
Supervision	Current Associate PhD Supervisor of Robert Hickingbotham (Aug 2020-present) at Monash University. Thesis topic: Exploring the product structure of graphs.

Supervision	Honours Supervisor of Jackson Goerner (Dec 2019-Nov 2020) at Monash University. Thesis topic: An introduction to methods of extension complexity and their use on graph problems.
Supervision	Master's Co-supervisor of Carole Mueller (Sept 2016-May 2017) at Université libre de Bruxelles. Thesis topic: Excluded minors for isometric embeddings of graphs.
Conference Organization	Co-organized the 2016 Southern Italian Workshop on Graphs and Algorithms together with Paul Wollan and Maria Chudnovsky.
Graph Minors	I often employ tools from the Graph Minors Project of Robertson and Seymour to solve fundamental problems in graph theory and theoretical computer science.
Extension Complexity	For many important problems in combinatorial optimization I prove upper and lower bounds on the number of inequalities required to describe the problem as a linear program.
Matroids	I mainly study the structure of matroids representable over a fixed finite field. I have an ongoing collaboration with Bert Gerards on some aspects of the Matroid Minors Project of Geelen, Gerards, and Whittle.
Approximation Algorithms	I have recently been working on approximation algorithms for problems which can be phrased as hitting set problems in hypergraphs. For example, the Feedback Vertex Set problem in tournaments is one such problem.
Matroid Union Blog	I am the main editor of the Matroid Union Blog, which is a blog for and by the matroid community. Reinhard Diestel, June Huh, and James Oxley are among our guest bloggers.
MathOverflow	I am one of the highest rated users (27019 reputation points) on MathOverflow, which is a question and answer site for research mathematicians.

## Part VIII – Summary of Scientific Achievements

Product type	Number	Data Base	Start	End
Papers [international]	34	SCOPUS	2014	2021
Papers [national]				
Books [scientific]				
Books [teaching]				

Total Impact factor	34.29
Total Citations	54
Average Citations per Product	1.59
Hirsch (H) index	5
Normalized H index*	0.45

## Part IX– Selected Publications

[1] Jim Geelen, Tony Huynh, and R. Bruce Richter. Explicit bounds for graph minors. *J. Combin. Theory Ser. B*, 132:80–106, 2018.

- [2] Tony Huynh, Felix Joos, and Paul Wollan. A unified Erdős-Pósa theorem for constrained cycles. *Combinatorica*, 39(1):91–133, 2019.
- [3] Tony Huynh, Gwenaël Joret, Piotr Micek, and David R. Wood. Seymour’s Conjecture on 2-Connected Graphs of Large Pathwidth. *Combinatorica*, 40(6):839–868, 2020.
- [4] Wouter Cames Van Batenburg, Tony Huynh, Gwenaël Joret, and Jean-Florent Raymond. A tight Erdős-Pósa function for planar minors. *Proceedings of the Thirtieth Annual ACM-SIAM Symposium on Discrete Algorithms*, pages 1485–1500. SIAM, 2019.
- [5] Michele Conforti, Samuel Fiorini, Tony Huynh, Gwenaël Joret, and Stefan Weltge. The stable set problem in graphs with bounded genus and bounded odd cycle packing number. *Proceedings of the Fourteenth Annual ACM-SIAM Symposium on Discrete Algorithms*, pages 2896–2915. SIAM, 2020.
- [6] Yohann Benchetrit, Samuel Fiorini, Tony Huynh, and Stefan Weltge. Characterizing polytopes in the 0/1-cube with bounded Chvátal-Gomory rank. *Math. Oper. Res.*, 43(3):718–725, 2018.
- [7] Samuel Fiorini, Tony Huynh, and Stefan Weltge. Strengthening convex relaxations of 0/1-sets using Boolean formulas. *Mathematical Programming*, 2020.
- [8] Michele Conforti, Samuel Fiorini, Tony Huynh, and Stefan Weltge. Extended formulations for stable set polytopes of graphs without two disjoint odd cycles. *Integer Programming and Combinatorial Optimization*, pages 104–116, Cham, 2020. Springer International Publishing.
- [9] Ahmad Abdi, Gérard Cornuéjols, Tony Huynh, and Dabeen Lee. Idealness of  $k$ -wise intersecting families. *Mathematical Programming*, 2020.
- [10] Oswin Aichholzer, Jean Cardinal, Tony Huynh, Kolja Knauer, Torsten Mütze, Raphael Steiner, and Birgit Vogtenhuber. Flip Distances Between Graph Orientations. *Algorithmica*, 83(1):116–143, 2021.
- [11] Tony Huynh and Peter Nelson. The matroid secretary problem for minor-closed classes and random matroids. *SIAM J. Discrete Math.*, 34(1):163–176, 2020.
- [12] Samuel Fiorini, Tony Huynh, Gwenaël Joret, and Carole Muller. Unavoidable minors for graphs with large  $\ell_p$ -dimension. *Discrete and Computational Geometry*, 66, 301–343, 2021