

Max Biggs

Curriculum Vitae

OCTOBER 2018

EDUCATION

2014 – PRESENT (5TH YEAR)

Massachusetts Institute of Technology, PhD

Operations Research Center

Advisor: Prof. Georgia Perakis

GPA: 4.9/5.0

Relevant Courses: Theory of Operations Management (both Inventory and Revenue Management), Integer Optimization, Machine Learning, Analytics Edge, Discrete Processes, Dynamic Programming and Stochastic Control, Fundamentals of Probability, Linear Programming, Robust Optimization.

2010 – 2013

University of Auckland, BE (hons) First Class Honors

Specialization: Engineering Science, Major: Operations Research

GPA: 8.97/9.0

RESEARCH EXPERIENCE

2014 TO PRESENT

Massachusetts Institute of Technology, PhD

Research Assistant, Advisor: Prof. Georgia Perakis

- + Working on data-driven optimization, combining machine learning with operational optimization problems.
- + Dynamic routing with applications in maritime shipping and on-demand healthcare.

2013

University of Auckland New Zealand

Honors Project, Advisor: Prof. Tony Downward

- + Mixed integer programming formulations for diamond cutting problem.

2013

University of Auckland New Zealand

Summer Research Assistant, Advisor: Prof. Andrea Raith

- + Multi-objective optimization for bicycle routing.

EMPLOYMENT

2016

Research Intern, Amazon

Formulating and coding a large scale advertising optimization problem to solve within tight time frame using mixed integer programming

2015/16

Planning Consultant, Thenamaris Shipping Company

Working on algorithms to design ship routes based on dynamic availability of cargoes

2014

Data Scientist, Harmonic Analytics Limited

Provided consulting services to help clients create value from their data using mathematical and statistical models.

2014

Consultant, Strategy and Operations, Deloitte

Worked on large RFP for public sector client.

MANUSCRIPTS IN PREPARATION/ SUBMITTED FOR REVIEW

Alley, M., Biggs, M., Hariss, R., Herrmann, C., Li, M., Perakis, G.

Pricing for Heterogeneous Products: Analytics for Ticket Reselling. *Submitted MSOM*, September 2018.

Biggs, M., Hariss, R. **Optimizing Objective Functions Determined from Random Forests**, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2986630. *To be submitted soon.*

+ *Finalist Data Mining Best Paper Competition INFORMS 2018*

Biggs, M., Perakis, G. **A Ranking Algorithm for Tramp Shipping in the Spot Market.** *In revision, Management Science.*

+ *Finalist Service Science Best Paper Competition INFORMS 2017*

Biggs, M., Perakis, G. **Dynamic Routing Algorithms for on Demand Healthcare.** *In preparation.*

TEACHING EXPERIENCE

Teaching Assistantships

SUMMER 2017

Intro to Operations Management (EMBA), rating 6.22/7

FALL 2016

Data Models and Decisions (EMBA), rating 6.64/7

HONORS AND AWARDS

2014

William Georgetti Fellowship to study at Massachusetts Institute of Technology

Awarded by Governor General of New Zealand

2009

Valedictorian

Scots College, Wellington, New Zealand

2009

International Biology Olympiad

Bronze Medal, Osaka, Japan

2009

Outstanding Scholar Award

Top 40 students in High School National Examinations

CONFERENCE PRESENTATIONS

MSOM 2018

Dallas. Biggs, M., Hariss, R., Perakis, G., Data driven operations management using random forest optimization

INFORMS 2017

Houston, Biggs, M., Hariss, R., Perakis, G., Optimizing Objective Functions Determined from Random Forests

MSOM 2016

Auckland, Biggs, M., Perakis, G., Dynamic ship routing under limited foresight

TRISTAN 2016

Aruba, Biggs, M., Perakis, G., Dynamic ship routing under limited foresight

POMS 2016

Orlando, Biggs, M., Perakis, G., Dynamic ship routing under limited foresight