

# Tyler Dwyer

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Company Website: <http://www.pinkrobotics.ca>

## Bio

Tyler Dwyer is a passionate computer scientist, engineer, entrepreneur and visionary who is excited about next-generation computer and robotic systems. In his academic research, he is investigating a new way to execute programs that will improve the efficiency of existing, under-utilized, computational hardware. Outside of university, he is using robotics, paired with artificial intelligence, to image and fight wildfires. In 2018, Tyler founded Pink Robotics to provide drone-based robotic services to emergency crews during and after natural disasters such as wildfires and floods.

## Employment

- 2018 - Present      Founder - Pink Robotics
  - *Large-scale autonomous robotic systems*
- 2015 - Present      Research Assistant - University of British Columbia
  - *Computer Systems Lab: Optimizing computer performance*
- 2015 - 2016        Teaching Assistant - University of British Columbia
  - *Course: CPEN 331, Operating Systems*
- 2013 - 2015        Research Assistant - Simon Fraser University
  - *SYNAR Lab: Commercial uses for Quantum Computers*
- 2014                Technical Support - International Space University
  - *Technician for the 2014 Space Studies Program in Montreal, Canada*
- 2012 - 2014        Security systems technician (Part-time) - Klassen Technologies
  - *Installation and repair of access control and security camera systems.*
- 2012 - 2013        Research Assistant - Simon Fraser University
  - *MENERVA Lab, Project: Development of the vertical climbing hexapod, Abigaille.*
- 2010 - 2012        Research Assistant - Simon Fraser University
  - *SYNAR Lab, Machine learning to mitigate HPC performance degradation*

## Education

- 2013 - Present      **Ph.D., Computer Engineering**  
University of British Columbia, Vancouver, British Columbia  
Current Research: Improving processor efficiency using instruction interleaving
- 2012                **Space Studies Program**  
International Space University, Kennedy Space Center, Florida  
Team Project: OASIS: Operations And Service Infrastructure for Space
- 2012                **M.S., Computer Science**  
Simon Fraser University, Burnaby, British Columbia  
Thesis: Machine learning methods to mitigate HPC performance degradation due to contention for shared resources.
- 2009                **B.S., Computer Science**  
Queen's University, Kingston, Ontario  
Areas of focus: Cognitive science, machine learning and data mining

## Publications

**On Instruction Organization**, Tyler Dwyer and Alexandra Fedorova, In HotOS: Hot-Topics in Operating Systems, 2015.

**Multi-Objective Job Placement in Clusters**, Sergey Blagodurov, Alexandra Fedovova, Evgeny Vinnik, Tyler Dwyer, and Fabien Hermenier. In SC15: Supercomputing 2015

**A Practical Method for Estimating Performance Degradation on Multicore Processors, and its Application to HPC Workloads**. Tyler Dwyer, Alexandra Fedorova, Sergey Blagodurov, Mark Roth, Fabien Gaud, and Jian Pei. In SC12: Supercomputing 2012

**Establishment of a Spaceport Network Architecture.**, Tyler Dwyer, et al., In 63rd International Astronautical Conference. International Astronautical Federation, September 2012. *Full author list can be found in the publication*

**OASIS: Operations And Service Infrastructure for Space.**, Tyler Dwyer et al. Technical report, Space Studies Program, International Space University, 2012. *Full author list can be found in the report*

## Technical Knowledge

Programming C/C++, Go, Java, Python, Matlab, R, Lisp, Bash, Latex

Tools LLVM, TensorFlow, Adobe Suite, Emacs, Vim

## Awards

2015 *Graduate Fellowship Scholarship - \$6,250*  
2012 *1<sup>st</sup> Place in SSP'12 Robotics Competition*  
2012 *International Space University - €20,000*  
2011 *1<sup>st</sup> Place in Lightweight Mens Indoor Rowing Competition*  
2010 *Graduate Fellowship Scholarship - \$6,250*  
2009 *Pacific Century Graduate Scholarship - \$10,000*  
2009 *Queen's University Dean's Honour List*  
2006 *Nortel Networks Upper Year Award - \$2,000*  
2005 *Queen's University Entrance Scholarship - \$1,500*

## Service & Affiliations

2012 Member of Royal Astronomical Society of Canada, Vancouver  
2011 - 2015 SYNAR Lab Administrator - Simon Fraser University  
2010 - 2012 Varsity Rowing Team - Simon Fraser University  
2010 - 2011 SFU Outdoors Club - Simon Fraser University

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