

# Matthew Angus

## Curriculum Vitae

*I am an enthusiastic and hardworking person who has been responsible for developing innovative technologies in both my academic and professional work. I am interested in developing new, exciting, or even radical ideas that have the potential to shape the future of how people interact with technology.*

### Education

- Sept '16 – **Master of Mathematics in Computer Science**, *The University of Waterloo*.  
Present
  - Focus on the application of machine learning for autonomous driving
  - Developing a pedestrian simulator that teaches a self driving controller how to react to pedestrians.
  - In the early stages of collaboration with the automotive industry.
- Sept '11 – **Bachelor of Science in Computer Science**, *The University of Calgary*, Concentration in Algorithms and Complexity Theory, Minor in Pure Mathematics.  
April '16
  - Sought out Dr. Rob Kremer to collaboratively research ontology inference for a semantic knowledgebase where I decreased the runtime of our inference algorithm by 97% to achieve a runtime in  $O(x^n)$ .
  - Two semester exchange at the University of Western Australia where I was able to grow both personally and academically by seeing how people lived in the Asia-Pacific region.

### Work Experience

- Jan '15 – **Application Developer**, CANADIAN NATURAL RESOURCES LIMITED, Calgary.  
Aug '16
  - Consulted on architecting the data and business layers of a responsibility management system that tracked responsibilities globally, that extracted a hierarchy from a relational database.
  - Helped translate internal customer requirements into action items for our development team.
  - Championed and implemented bug tracking best practices across our development team, previously there was none.
- May '12 – **Security Analyst**, CANADIAN NATURAL RESOURCES LIMITED, Calgary.  
Dec '13
  - Created small scripts to replace manual tasks saving our team many hours on a weekly basis.
  - Worked within our company's workflow to deliver access to various applications.
  - Helped external vendors manage access to our environment through FTP.
  - Removed application and network access for employees that had left the company.

### Awards and Competitions

- 2016 Math Domestic Graduate Student Award
- 2016 Graduate Research Studentship Award
- 2016 University of Calgary Faculty of Science Dean's List
- 2016 Intelligent Ground Vehicle Competition Rookie of the Year
- 2016 Intelligent Ground Vehicle Competition 8<sup>th</sup> Place, out of 24
- 2016 IEEE Sumobots Competition
- 2015 Alberta Collegiate Programming Contest
- 2015 IEEE Minibots Competition
- 2013 International Studentship Competition Award
- 2012 Alberta Collegiate Programming Contest

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## Technical skills

Basic  $\text{\LaTeX}$ , HASKELL

Intermediate C++, PYTHON, TensorFlow, Test Driven Development, Git, OpenCV, Linux

Advanced JAVA, MATLAB, SQL, C#

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## Co-Curricular Activities

2013 – 2016 **Lead Software Developer**, *Autonomous Robotics Club*, The University of Calgary.

- Architected and implemented over 50% of the core system including the real-time image processor for vehicle navigation.
- Integrated a fuzzy logic controller with our systems data streams (GPS, Lidar, IMU) for real time decision making.

2013 – 2016 **Club Executive**, *Autonomous Robotics Club*, The University of Calgary.

- Co-managed ARC where I helped managed our budget and recruitment on campus.
- Worked on a community outreach program to present our robot to middle school students to help gain interest in robotics and computer science.
- Organized and managed ARC's first entry into the Intelligent Ground Vehicle Competition.

2012 – 2013 **Software Developer**, *Autonomous Robotics Club*, The University of Calgary.

- Experimented with various motion planning algorithms such as A\* search based motion planner and the distance transform to find open space.

2012 – 2013 **Club Member**, *Problem Solving Club*, The University of Calgary.

- Analyzed small problems sets to learn when to use various data structures and algorithms.

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## Interests

- Rock Climbing
- Snowboarding

- Hiking
- Raspberry Pi