

ANDREW ANDRADE

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HIGHLIGHTS

Contributed to over \$10 MM dollars of value creation through product sales, cost reduction, and venture capital raising since joining co-op in highschool

Researcher and inventor who presented patents and academic publications internationally

Volunteer, mentor, motivational speaker, team builder demonstrated through various leadership roles

INDUSTRY EXPERIENCE

MIT & SUTD Self Driving Vehicle Research

Sep. 2014 - Apr. 2015

Researcher & Project Manager

Singapore

- Lead researchers, developers and engineers at MECLab and MIT through smart.mit.edu to create a self driving, autonomous bicycle
- Integrated probabilistic robotic system integration by building the data infrastructure and lead the development of the sensor filtering logic
- Conducted business model and scalability analysis using monte carlo simulation

PetroPredict, Inc

Sep. 2013 - Present

Technical Co-founder and Lead Researcher

Canada and Singapore

- Leading the research and technical development for the next generation of intelligent tools for the oil and gas industry
- Created a company from just an idea to six figure total revenue in less than a year
- Winner of 8 entrepreneurship/business competitions (over \$50,000 in funding)
- Active contributor to student professional development and to the co-op program hiring 6 co-op students

Independent Contract Work

Sep. 2013 - Present

Lead Consultant

Waterloo, ON

- Leading the mechanical, industrial, product and manufacturing design for a wireless backhaul antenna waveguide
- Work lead to first product in the market and was a major contributing factor to company raising \$8MM
- Consulting included mechanical design, CAD modeling, customer specification drawings, supplier relations, outsourcing manufacturing, quality testing and validation and developing marketing material

Facebook

Jan. 2014 - Apr. 2014

Manufacturing Engineering Co-op

California, Oregon and China

- Designed and deployed hardware test fixtures in factories which lead to a \$1.4 MM hardware cost savings and additional savings in reduced energy consumption, decreased testing time and decreased worker handling
- Drove quality issues and vendor management at Facebook's data centers, firefighting quality issues and vendor rework collaborating with American, European and Chinese vendors
- Lead quality and manufacturing of a new server product line, a task usually given to full time engineers
- Contributed to the Facebook campus recruitment by promoting co-op education

Peraso Technologies*Embedded Software Engineering Co-op*

May 2013 - Aug. 2013

Toronto, ON

- Conducted firmware and embedded development for a baseband RF Wifi Chip (MAC and PHY layer).
- Wrote developer debug GUI and fireware features using CLI over UART, SPI and USB interfaces.
- Participated in board bring up and debugging using data acquisition and lab test equipment (multi-meters, oscilloscopes, power supplies)

Waterloo Institute for Sustainable Energy*Undergraduate Research Assistant*

Jan. 2013 - Apr. 2013

Waterloo, ON

- Completed data analysis of energy consumption and environmental indicators
- Conducted energy policy research in context of environmental sustainability
- Identified trends in energy consumption and environmental indicators on the global scale
- Dependency tested the correlation between economic motivations and energy product internationally
- Presented results in visually compelling forms for presentations and compendium literature

TopHat*Campus Ambassador*

Feb. 2013 - Mar. 2013

Waterloo, ON

- Spearheaded adoption on campus of classroom response system with guidance from Sales and Marketing
- Developed product awareness after establishing target audiences and business model
- In first month closed the most demo's and received monthly award for best sales rep

Suncor Energy*Reservoir Engineering Co-op*

Sep. 2012 - Dec. 2012

Calgary, AB

- Conducted a complete oil field segment analysis for redevelopment on Libyan assets using PVT, material balance, reserves estimation, and water influx calculations based on well test and production data
- Applied decline curve analysis and field optimization forecasting to propose redevelopment which would yield a 33% increase in sustainable oil production using water flood and EOR techniques

Imtex Membranes*Mechanical Engineering Intern*

Jan. 2012 - Apr. 2012

Mississauga, ON

- Integrated 6 σ and lean methodologies (DMAIC and DFSS) for analytical engineering design and project feasibility leading to 45% operating cost reduction
- Designed and constructed bench scale apparatus and experiment setups in a petrochemical R&D environment
- Developed Excel spreadsheets and other MS Office documents using macros and forms to assist researchers input data resulting in a decrease of the opportunity for data input error

Chrysler*Summer Student*

Jun. 2011 - Aug. 2011

Brampton, ON

- Applied World Class Manufacturing continuous improvement ideals in the automotive manufacturing industry in daily part assembly and part manufacturing routines
- Diagnosed cost of poor quality issues removing hidden factories, inherent waste and non-value added tasks by documenting Quick Kaizens and participating in time studies

Cantech Tool and Machine Co*Student Machinist and CNC Operator*

Sep. 2009 - May 2011

Mississauga, ON

- Operating manual and CNC milling machines, lathes and surface grinders
- Maintained a high quality of work when machining parts with very high tolerances ($\pm 0.002''$)

City of Mississauga

Aug. 2009 - May 2011

*Deck Supervisor, Lifeguard, Swimming Instructor and Camp Councilor**Mississauga, ON*

- Instructed leadership techniques to students in performing lifesaving methods and swimming as a First Aid and Lifesaving Instructor
- Strengthened team building and team management resulting in no incidents or injuries while supervising
- Demonstrated by example strong communication skills and decision making during emergency situations

Institute for Quantum Computing

Jul. 2010 - Aug 2010

*Summer Research Student**Mississauga, ON*

- Participated in the Quantum Cryptography School for Young Students (QCSYS) program.
- Conducted hands-on experiments with lasers and group work focused on quantum cryptography

Royal Canadian Army Cadets

Sep. 2008 - June 2010

*Master Corporal**Mississauga, ON*

- Completed Army Cadet Leadership and Cadet Leadership Instructor training
- Organized, lead and trained teams of junior cadets in basic training for outdoor skills
- Avid drill, marksmanship, music and leadership instructor

PATENTS AND PUBLICATIONS

Erik Wilhelm, Abhishek Gupta, Selvasurendhiran Modurpalayam, Rickey Wang, Brandon Walton, Adam Wootton, Tim Jeruzalski, Andrew Andrade, AutoBikes: Autonomous Electric Bicycles for First and Last-mile Mobility on Demand, The International Electric Vehicle Symposium & Exhibition, Forthcoming

Andrade, A. Multifaceted approach to oil field segment analysis using artificial intelligence, Society of Petroleum Canadian Regional Paper Contest, August 2014

Andrade, A. Growing and scaling high performance teams, Conrad Business, Entrepreneurship and Technology Leadership Blog, August 2014

Fakharzadeh, M., Andrade, A., Jafarlou, S., Lynch, B., Tazlauanu, M., Waveguide adapter plate to facilitate accurate alignment of sectioned waveguide channel in microwave antenna assembly. U.S. Patent Application 14217683, filed March 2014. Patent Pending

Andrade, A. Winning a Facebook Hackathon Without a Single Line of Code, Open Compute Foundation Technical Blog, March 2014

PROFESSIONAL ORGANIZATION LEADERSHIP

Executive Member at the Society of Petroleum Engineer's Student Chapter, May 2013 - Present

Student Member at the Ontario Society of Professional Engineers, Sept 2011 - Present

Adviser at the University of Waterloo Petroleum Energy Association, October 2013 - Present

VP Marketing at the University of Waterloo Petroleum Energy Association, May 2013 - September 2013

Adviser at the University of Waterloo Entrepreneurship Society (UWES), May 2013 - September 2013

Macrofabrication Lead at the University of Waterloo Nanorobotics Group, September 2012 - September 2013

Team Member at the University of Waterloo Nanorobotics Group, September 2011 - September 2012

AWARDS AND RECOGNITION

Canada wide and Waterloo Engineering Co-op student of the year. March 2015

Third best overall masters' research paper, SPE Canadian Regional Paper Contest. August 2014

Pan IIT Global Entrepreneurship Competition Award, India Institutes of Technology. June 2014

David McFadden Energy Entrepreneur Challenge, Ontario Center of Excellence. May 2014

Elevator Pitch Competition Award, Ontario Center of Excellence. May 2014

Velocity 25k Fund, University of Waterloo. April 2014

Best Use of Arduino, BeMyApp Factory Hackathon. March 2014

International Hackathon Winner, OpenCompute Foundation. January 2014

Best use of MongoDB, LAHacks. January 2014

Velocity 1k Fund, University of Waterloo. December 2013

Velocity People's Choice Award, University of Waterloo. December 2013

Co-op Student of the Year Honorable Mention, University of Waterloo December 2013

Nicol Entreprenial Award, University of Waterloo. November 2013

Mobile Microrobotics Winner, International Conference on Robotics and Automation. May 2013

Industrial Research Award, National and Engineering Research Council of Canada. May 2013

Undergraduate Research Award for Sustainable Energy Development, University of Waterloo. Jan 2013

Professional Engineers Foundation Scholarship, Professional Engineers of Ontario. June 2012

President Scholarship, University of Waterloo. September 2011

Highest Overall Average, Port Credit Secondary School. June 2011

Port Credit Alumni Excellence Award, Port Credit Secondary School. June 2011

Terry Garbutt Memorial Award, Port Credit Alumni Association. June 2011

Vice Principal Award in Technology Development, Port Credit Secondary School. June 2011

Ultimate Frisbee Gold Medal, Regional of Peel Sports Association. June 2011

Silver Medal in CNC Programming, Skills Ontario Competition. May 2011

Third Place Engineering Olympics, McMaster University. October 2010

Bronze Medal in Precision Machining, Regional Skills Ontario. May 2010

Fourth and Sixth Place Overall at Robotics, Skills Ontario. May 2008 & 2009

VOLUNTEER LEADERSHIP

World Community Grid Research Promotion Director and Team Captain. September 2011 - Present

Alumni Outreach and Motivational Speaker, Port Credit Secondary School June 2010 - Present

New Year's Eve Event Organizer & Area Site Plan Manager, City of Mississauga, 2011-2012

Student Design Symposium Organizer, University of Waterloo, May 2012