

education	2014 sep-present	<b>Candidate for Masters of Applied Science in Civil Engineering</b> University of Waterloo
	2014	<b>Bachelor of Applied Science Honours in Civil Engineering</b> , with Distinction University of Waterloo  Dean's Honour List, Structural Engineering Certificate
professional experience	2014 sep-present	<b>Research Assistant</b>   University of Waterloo, Waterloo, ON Canada <i>Advisors: Dr. Robert Gracie &amp; Dr. Sriram Narasimhan</i> <i>Research topic: Microseismic monitoring of hydraulic fracturing</i>  Gained an in-depth knowledge of continuum mechanics, finite element analysis, and contact mechanics through the modeling of a shear-dilation crack using the eXtended Finite Element Method. Applied modeling techniques to improve the understanding of source mechanisms of microseismicity in hydraulic fracturing. Developed knowledge of petroleum geomechanics, dynamics, and signal processing through coursework and analysis.
	2013 sep-dec	<b>Mercadeo VIBE</b>   Ciudad del Carmen, Campeche México Architectural Firm   Structural Designer  Performed structural design on various projects, including shallow foundations, steel frames, and concrete slabs. Coordinated different parts of a project by liaising with architects and supervising construction.
	2013 jan-apr	<b>Simpson Gumpertz &amp; Heger</b>   Waltham, MA USA Engineering Mechanics & Infrastructure   Intern  Developed knowledge of US building codes and design procedures through several projects, including shallow and deep foundations, concrete and steel design. Enhanced technical writing skills by writing various reports, including a literature review for an AASHTO Culvert Inspection Manual. Performed structural analysis of cooling towers on a power plant using NASTRAN and FEMAP.
	2012 may-aug	<b>McCormick Rankin, a Member of MMM Group</b>   Mississauga, ON Canada Structural Department, Bridges   Intern  Obtained an understanding of the design process through the review of design proposals, analysis of loading on bridges using structural analysis software, and various drafting assignments. Performed a section property analysis for the design of the Johnson Street bascule bridge in Victoria, BC. Inspected bridges, identifying delaminated concrete over roadways and pedestrian walkways.

**professional  
experience**

2011  
sep-dec

**EllisDon Corporation | Toronto, ON Canada**

**Construction Management, Southcore Financial Centre | Junior Coordinator**

Acquired a hands-on view of construction work through tasks such as coordinating site logistics and ordering concrete for daily placements, preparing as-built drawings and schedules for meetings, directing sub-trade work and assisting in site layout during excavation. Demonstrated leadership and team work ability through daily communication with sub-trades and co-workers.

2011  
jan-apr

**Ontario Ministry of Transportation | St. Catharines, ON Canada**

**Traffic Operations | Intern**

Designed pavement markings used on various highways in the Greater Toronto Area using 3D AutoCAD. Improved technical writing skills through the writing of Ontario Traffic Manual Book 7 – Temporary Traffic Control.

2010  
apr-aug

**AECOM | Markham, ON Canada**

**Infrastructure Analysis and Asset Management, Water | Intern**

Performed an inflow and infiltration sewer analysis for the Region of York, which included an extensive use of ArcGIS. Increased productivity on repetitive tasks by programming macros on Microsoft Excel.

**research**

2014  
jan-apr

**Microseismic monitoring of hydraulic fracturing**

**University of Waterloo Undergraduate Research | *Dr. Robert Gracie***

Prepared a literature review of micro-seismic monitoring techniques and theory

2013  
may-aug

**Rehabilitation with fibre reinforced plastic**

**University of Waterloo Undergraduate Research | *Dr. Khaled Soudki***

Performed various laboratory tests on strengthening of structures with FRP sheets and stay-in-place FRP formwork

2012  
sep-dec

**Interface Management Project Development**

**University of Waterloo Undergraduate Research | *Dr. Carl Haas***

Developed an offshore oil and gas project used to support research on interface management systems

2010  
sep-dec

**Non-destructive testing of construction joints in pavement**

**University of Waterloo Undergraduate Research | *Dr. Giovanni Cascante***

Performed non-destructive tests on asphalt samples to characterize their properties using mechanical waves

<b>teaching experience</b>	2015 may-aug	<b>Rehabilitation of Structures</b>   University of Waterloo Teaching Assistant
	2015 jan-apr	<b>Structural Dynamics</b>   University of Waterloo Teaching Assistant
<b>laboratory experience</b>		<b>Materials testing:</b> Tensile, compression, and heat testing on concrete, steel, polymers, wood, and other metals
		<b>Soils testing:</b> Direct Shear, Atterberg Limits, consolidation, permeability
<b>software</b>		<b>Drafting:</b> AutoCAD, Revit
		<b>Structural Analysis/Design:</b> RISA, RAM
		<b>Finite Element Modeling &amp; Analysis:</b> SAP2000, MIDAS, ABAQUS
		<b>Calculation Software:</b> Mathcad, TEDDS
		<b>Programming:</b> MATLAB, Visual Basic, Python
		<b>Other:</b> ArcGIS, Microsoft Project, Microsoft Access, HTML + CSS
<b>awards &amp; certificates</b>	2015	Fundamentals of University Teaching Certificate
	2014	International Master's Student Award
	2013	David Johnston International Experience Award
	2013	Sanford Fleming Foundation Award
	2013	CISC Ontario/M&G Steel Scholarship
	2011	Engineering Faculty/Staff Upper Year Scholarship
	2009-2014	Engineering International Student Scholarship
<b>activities</b>	2015	University of Waterloo Varsity squash team
	2015	Inter-mural sports: Volleyball, soccer
	2013	Member, International Student Connection (Global Café)   University of Waterloo
	2010	Member, AECOM soccer team   Markham, ON
	2009-2010	Academic Representative, Civil Engineering Class   University of Waterloo
	2009	Performer, The Marriage of Figaro   Hamilton Conservatory for the Arts