

Alexandru Litoiu

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EDUCATION	<ul style="list-style-type: none"> ◇ Yale University New Haven, CT Expected May 2015 <i>MPhil in Computer Science - Social Robotics Lab</i> ◇ Yale University New Haven, CT 2014 <i>MSc in Computer Science - Social Robotics Lab</i> <i>First in Class - Perfect Grades</i> ◇ University of Toronto Toronto, ON 2012 <i>BASc. in Computer Engineering, Honours</i> <i>Major: Software Engineering CGPA: 3.73</i> ◇ Upper Canada College Toronto, ON 2008 <i>International Baccalaureate High School Diploma</i>
AWARDS	<ul style="list-style-type: none"> ◇ 2012 to 2018 - Yale University Fellowship 64,950/year ◇ 2015 - HRI Pioneers Grant 1,275 <i>10th ACM/IEEE International Conference on Human-Robot Interaction (HRI 2015)</i> ◇ 2012 - NSERC Post Graduate Scholarship 17,300 ◇ 2012 - Alexander Graham Bell Canada Graduate Scholarship 17,500 <i>Turned down</i> ◇ 2011 - The Next 36 Entrepreneurial Leaders of Canada 25,000 ◇ 2011 - NSERC Undergraduate Student Research Award 4,500 ◇ 2010 - NSERC Undergraduate Student Research Award 4,500 ◇ 2008 - Ontario Scholar - ◇ 2008 - University of Toronto Scholar 5,000 ◇ 2008 - Senior Mann Prize for Best Extended Essay - <i>Best International Baccalaureate Extended Essay at Upper Canada College - class of 150</i>
INDUSTRY EXPERIENCE	<ul style="list-style-type: none"> ◇ Golf Swing Action Recognition Founder & Lead Engineer 2014 <i>New Haven, CT - iPhone Mobile Application</i> Conceived, designed and implemented an in-pocket mobile classifier to detect when the user has performed a golf swing based on accelerometer readings. Records location of all swings, to enable playback of a round, including distances, and shot placement. Requires no manual input, unlike comparable products on the market. · <i>Technologies Used:</i> C++, Boost Asio, dlib, dygraph, Git ◇ ProTrack Founder & Lead Engineer 2013 <i>New Haven, CT - iPhone Mobile Application</i> Conceived, designed and implemented a computer vision algorithm to detect and track golf balls flying downrange up to approximately 50 yards from an iPhone 5 video recording. Reprojected from 2-dimensional video into 3-dimensions, and extrapolated trajectory using Newtonian mechanics and Magnus effect. Achieved performance of 8% average error in tracking ball flight distance compared with \$20,000 gold standard radar device on a sample of swings averaging 150 yards. · <i>Funded by Yale Entrepreneurship Institute Venture Creation Program - \$2500</i> · <i>Technologies Used:</i> C++, Python, OpenCV, CMake, Git ◇ Atlas Co-Founder & CTO 2012 - 2013 <i>Toronto, ON - iPhone Mobile Application</i> Atlas was a mobile location recommendation platform which enabled users to build their own exclusive network of restaurant recommendations with their friends. The company was founded in 2012 by Alex Litoiu, Evan Williams, and Mike Murchison, and received investment from The Next 36. <i>Atlas was acquired by Purple Forge in 2013.</i>

- Architected and built scalable backend server for live, production social media location recommendation application
 - Recruited and led technical team of 6 people, of Atlus's 10 employees
 - Initiated, led, negotiated and closed company sale to Purple Forge Inc. in 2013
 - *Backend Technologies:* Python, Apache, Django, Amazon EC2, Ubuntu 12.04, haproxy, PostgreSQL, postGIS
 - ◇ **Twitter Stock Market Prediction** Lead Designer & Lead Engineer 2011
Toronto, ON - Backend Machine Learning Application
 Thesis project using machine learning methods attempting to predict the NASDAQ based on sentiment analysis of Twitter data comprised of 200 million tweets. We have achieved a 60% prediction rate for directional changes of index funds one day in advance.
 - Outstanding Design Project of the Year in University of Toronto ECE
 - *Technologies Used:* Python, MongoDB, scikit-learn, Ubuntu Linux
 - ◇ **Habit Droid** Founder & Lead Engineer 2010
Toronto, ON - Android Mobile Application
 Conceived, designed and implemented a habit-forming Android application that has helped over 10,000 individuals improve their discipline.
 - *Technologies Used:* Java, Javascript, Flot, JSON, Android Eclipse SDK, SQLite, SVN
 - ◇ **IBM** Software Engineering Intern 2006 - 2010
Toronto, ON - IBM Centre for Advanced Studies
 Led and participated in educational initiatives to increase interest in Computer Science in Canadian high schools. Developed educational resources used by students from across Canada. Helped organize the CASCON High School Programming Competition, a Canada-wide programming competition.
 - ◇ **RomaniaOptimista.com** Founder & Lead Engineer 2009
Toronto, ON - Ruby on Rails Web Application
 Developed a question/answer web application focused on resolving social problems in the Romanian community. This fully featured collaborative problem-solving website allowed users to work together to take a problem all the way through from the ideation stage, to a clear definition, to finding solutions, to executing them.
 - *Technologies Used:* Ruby on Rails, Prototype, Ajax, Textile, Sphinx, I18n, MySQL
- RESEARCH EXPERIENCE
- ◇ **Yale University** Research Assistant - *Professor Brian Scassellati* 2012 - Current
 - ◇ **University of Toronto** Senior Design Project - *Professor Brendan Frey* 2011
 - ◇ **University of Toronto** Undergraduate Research Assistant - *Professor Baochun Li* 2011
 - ◇ **University of Toronto** Undergraduate Research Assistant - *Professor Arno Jacobsen* 2010
- REFEREED PAPERS
- PROGRAMMING LANGUAGES
- ◇ **Programming Languages**
 - *Best:* Python, C, Java, Javascript, C++, Bash
 - *Proficient in:* Clojure, Verilog, Ruby, SQL, HTML, CSS3, Octave, R, Matlab
 - *Familiar with:* Objective C, Scheme, PHP, Visual Basic, awk, sed, Assembly, JAGS
 - ◇ **Programming Paradigms and Tools**
 - *Web Development:* Django, Ruby on Rails, Jekyll, REST, Javascript, jQuery, HTML, CSS3, PostgreSQL, MongoDB, MySQL, SQLite, haproxy, Amazon EC2
 - *Databases:* PostgreSQL, MongoDB, mySQL, SQLite
 - *Versioning Systems:* Git, SVN, CVS
 - *Statistical Analysis:* SPSS, R, Matlab, Octave, JAGS, scikit-learn, dlib

For a more detailed curriculum vitae and project demonstrations, visit <http://alitoiu.com>.