

Carlos Martin

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Education **Columbia University**, BS in Computer Science, GPA 3.9 (Dean's List) Expected May 2019
Minors: Applied Physics, Applied Mathematics
Relevant courses: Machine learning, artificial intelligence, neural networks,
probabilistic graphical models, numerical methods, probability and statistics

Publications **Predicting the large-scale evolution of tag systems.** *Complex Systems*, 25(2). May 2016
Generation and analysis of lamplighter programs. Under review. arXiv:1707.02652.
Differentiable cellular automata. Under review. arXiv:1708.09546.

Experience **Summer researcher**, Columbia University Robotics Lab May 2018 – present
Developing reinforcement learning algorithms for robots that use EEG signals
Summer analyst, Goldman Sachs Jun – Aug 2016
Created automated information retrieval and information extraction system
Software developer, Wolfram Research Jan – May 2016
Created step-by-step educational problem-solving software for Mathematica
Summer researcher, Columbia University Lightwave Research Lab Jun – Aug 2015
Researched parallel computing architectures and algorithms for photonic networks
Summer researcher, Wolfram Research Jun – Jul 2015
Researched large-scale dynamics of cellular automata and tag systems
Summer researcher, TRIUMF national laboratory Jun – Aug 2014
Researched laser ion sources and resonance ionization spectroscopy
Software developer, Appazur Solutions Aug 2013
Created cross-platform app using Django, PhoneGap, Sencha, Mixpanel, Twilio

Volunteering **Student ambassador**, Wolfram Research Dec 2015 – May 2018
Organizing workshops and seminars on Mathematica and Wolfram Research
Board member, Columbia Data Science Society Oct 2015 – May 2017
Organized data science and machine learning workshops and hackathons
Software developer, ADI Labs Sep – Dec 2015
Created Bayesian online changepoint detection system for stream processor
Software developer, Columbia Organization of Rising Entrepreneurs Sep – Dec 2015
Developed organization website using Flask, Bootstrap, Sass, Material Design
Secretariat member, British Columbia Model United Nations Feb 2013 – May 2014
Organized multiple provincial conferences, developed organization website

Honors **Fluor Foundation scholarship** May 2016
Awarded for academic excellence to students enrolled in engineering programs
Egleston scholarship Sep 2014
Awarded for extraordinary achievement as a student, researcher, and leader
Certificates of distinction in Pascal, Cayley, Fermat, Euclid, and Senior math contests 2010 – 2014
Awarded by Centre for Education in Mathematics and Computing (CEMC)
TRIUMF national laboratory fellowship May 2014
Awarded to students with passionate interest and demonstrated excellence in physics

Skills **Machine learning:** neural networks, decision trees, clustering, graphical models, reinforcement learning
Programming languages: Python, Java, C++, JavaScript, Haskell, Matlab, Mathematica
Computational physics: electromagnetics, fluid dynamics, rigid body dynamics, Monte Carlo methods
Language proficiency: English and Spanish (bilingual), Mandarin Chinese (elementary)
Debate and public speaking: National Seminar (2012), Senior Nationals (2013), Oxford Cup (2014)