

# Vahid Fazel-Rezai

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Education	<b>Massachusetts Institute of Technology</b> – Major: Electrical Engineering and Computer Science (Course 6-2) – Courses: Electricity and Magnetism, Intro EECS, Differential Equations <b>Phillips Exeter Academy</b> – Graduated with High Honors – Courses: Linear Algebra, Electronics, Cryptography, Game Theory, Intro Real Analysis	June 2018 (expected) <i>Cambridge, MA</i>  June 2014 <i>Exeter, NH</i>
Research	<b>Space Systems Lab</b> – Working on satellites as part of Undergraduate Research Opportunities Program – Developing software that integrates images from three types of cameras into single 3D point cloud – Analyzing data from SPHERES reduced gravity flight test <b>Genetics Research</b> – Crossed <i>Drosophila</i> to create stable lines with gene inserted for fluorescence – Dissected and imaged flies to identify gene expression collaborating with Seung Kim Lab at Stanford Univ. <b>Independent Math Research</b> – MIT Program for Research In Mathematics, Engineering and Science – Identified useful methods and classified families of permutations according to novel set of relations – Presented at 2014 Mathematical Association of America Undergraduate Student Poster Session <b>Computational Biochemistry Lab</b> – Worked in Linux and C for 65 hours alongside graduate students – Simulated peptide structure in varying conditions and compared results with experimental data <b>Independent Math Research</b> – Examined sets of intersections points of polygon diagonals using MATLAB – Identified geometric patterns of interest and generalized to continuous sets of points – Presented at Intel International Science and Engineering Fair 2011	9/14–present <i>Mass. Institute of Tech.</i>  3/14–6/14 <i>Phillips Exeter Academy</i>  2/13–9/13 <i>Mass. Institute of Tech.</i>  10/11–3/12 <i>Univ. of North Dakota</i>  1/11–5/11 <i>Grand Forks, ND</i>
Publications	Vahid Fazel-Rezai. Equivalence Classes of Permutations Modulo Replacements Between 123 and Two-Integer Patterns. <i>Electronic Journal of Combinatorics</i> , 21(2):#P47, 2014.	
Work	<b>Product Innovation Specialist</b> – Researching products with potential for small-scale solar electricity in Nepal <b>Grader</b> – Grading and giving feedback for online programming and math problems <b>Problem Director</b> – Oversaw writing of 67 problems and solutions and grading for 180 students	12/14–present <i>Recharge Labs</i>  9/14–present <i>Art of Problem Solving</i>  8/13–1/14 <i>Exeter Math Club Competition</i>
Activities	Harvard-MIT Math Tournament, staff/photographer MIT Men's Ultimate Frisbee Team Phillips Exeter Academy Science Bowl Team, co-founder and captain	2014–2015 2014 2013–2014
Awards	Bronze Medal, Asian Pacific Math Olympiad Semifinalist, Intel Science Talent Search Honorable Mention, Canadian Math Olympiad (7th place) Siemens Award for Advanced Placement Fourth Award in Mathematics, Intel International Science and Engineering Fair Winner, USA Junior Math Olympiad (6th place)	2014 2014 2014 2012 2011 2011
Skills	Python, C, C++, Java, MATLAB, OpenCV, LaTeX, Linux, HTML, CSS, Javascript, BASIC, Lego NXT	