

# Alex Levin

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CONTACT INFORMATION	130 Gore St. Apt. 2 Cambridge, MA 02141 <a href="http://mit.edu/levin/www">http://mit.edu/levin/www</a>	(646) 644-5370 levin@mit.edu
OBJECTIVE	A stimulating career in technology that will allow me to apply my quantitative skills to challenging real-world problems.	
EDUCATION	<b>MIT</b> , Cambridge, MA Ph.D. student in applied mathematics Relevant coursework includes classes on algorithms, computational biology, and cryptography. Qualifying exams passed December 2009.	<b>September 2008 – present</b>
	<b>Harvard University</b> , Cambridge, MA B.A. in mathematics, <i>magna cum laude</i> GPA: 3.9/4.0	<b>September 2003 – June 2007</b>
EXPERIENCE	<b>Facebook</b> , Menlo Park, CA <i>Data Science Intern</i> Designed new ranking strategies and performed A/B tests to measure their impact on user engagement. Improved data gathering and instrumentation at various places on the site. Created automated pipelines for validating and error-checking Hive tables.	<b>June 2012 – September 2012</b>
	<b>Ellington Management Group</b> , Old Greenwich, CT <i>Quantitative Analyst</i> As part of the research and development group, designed mathematical models for mortgage prepayments and defaults.	<b>August 2007 – August 2008</b>
	<b>Harvard University</b> , Cambridge, MA <i>Mathematics Course Assistant</i> Taught weekly recitation section and graded assignments for classes in theoretical linear algebra and multivariable calculus (Fall 2004 and Spring 2005), topology (Fall 2005), and abstract algebra (Fall 2006 and Spring 2007).	<b>September 2004 – May 2007</b>
PUBLICATIONS	<ol style="list-style-type: none"><li>1. James Kingsbery, Alex Levin, Anatoly Preygel, and Cesar Silva. “Measurable Dynamics of Maps on Profinite Groups.” <i>Indagationes Mathematicae (New Series)</i>, <b>18</b> (2007), no. 4, 561–581.</li><li>2. —. “On Measure-Preserving <math>\mathcal{C}^1</math> Transformations of Compact-Open Subsets of Non-Archimedean Local Fields.” <i>Transactions of the American Mathematical Society</i>, <b>361</b> (2009), no. 1, 61–85.</li><li>3. —. “Dynamics of the <math>p</math>-adic Shift and Applications.” <i>Discrete and Continuous Dynamical Systems, Series A</i>, <b>30</b> (2011), no. 1, 209–218.</li><li>4. Jonathan A. Kelner and Alex Levin. “Spectral Sparsification in the Semi-Streaming Setting.” <i>Symposium on Theoretical Aspects of Computer Science (STACS) 2011</i>, 440–451. Journal version to appear in a special issue of <i>Theory of Computing Systems</i> for best papers of STACS 2011.</li></ol>	

5. Ioannis Koutis, Alex Levin, and Richard Peng. “Improved Spectral Sparsification and Linear System Solving for SDD Matrices.” *Symposium on Theoretical Aspects of Computer Science (STACS) 2012*, 266–277.
6. Alex Levin, Mieszko Lis, Yann Ponty, Charles W. O’Donnell, Srinivas Devadas, Bonnie Berger, and Jerome Waldispuhl. “A global sampling approach to designing and reengineering RNA secondary structures.” *Nucleic Acids Research*, to appear.
7. Mark Lipson, Po-Ru Loh, Alex Levin, Nick Patterson, and Bonnie Berger. Efficient and Robust Estimation of Worldwide Historical Human Population Admixture and Genetic Drift. In preparation.

AWARDS AND HONORS	<ul style="list-style-type: none"> <li>- Liberty Mutual Graduate Fellowship, September 2008</li> <li>- National Science Foundation Graduate Fellowship, March 2007</li> <li>- Herchel Smith Harvard Scholarship (full scholarship to Cambridge), February 2007 (declined in favor of position at Ellington)</li> <li>- Phi Beta Kappa, November 2006</li> <li>- Barry Goldwater Scholarship (for achievement in science), March 2006</li> </ul>
SKILLS	<ul style="list-style-type: none"> <li>- Programming: Python; familiarity with Java, Matlab, and PHP; beginner Android development</li> <li>- Languages: English, Russian (fluent); French, Spanish (intermediate)</li> </ul>
OTHER ACTIVITIES	<ul style="list-style-type: none"> <li>- MIT Graduate Student Council: off-campus sub-committee co-chair (June 2011–June 2012)</li> <li>- Sidney-Pacific Graduate Community house government (April 2009–April 2010)</li> </ul>