

Education	Harvard University Sep 2014 - present <i>PhD Candidate</i> in Evolutionary Biology Advisor: Martin A. Nowak Field of Research: Mathematical and Computational Biology
	Massachusetts Institute of Technology Sep 2012 - Jan 2014 <i>M.Eng.</i> in Electrical Engineering and Computer Science Field of Research: Artificial Intelligence
	Massachusetts Institute of Technology 2008 - 2012 <i>B.Sc.</i> in Computer Science and Engineering
Publications	Prebiotic selection for motifs in a model of template-free elongation of polymers within compartments. <i>PLoS one (2017)</i> G. Kinsler*, S. Sinai* , N. K. Lee, M. A. Nowak
	Primordial sex facilitates the emergence of evolution <i>arXiv preprint (2016)</i> S. Sinai* , J. Olejarz*, I. Neagu, M. A. Nowak
	Computer simulations of cellular group selection reveal mechanism for sustaining cooperation <i>Journal of Theoretical Biology (2014)</i> A. J. Markvoort, S. Sinai , M. A. Nowak
Abstracts and Presentations	Variational auto-encoding of protein sequences (oral presentation) <i>Neural Information Processing Systems (NIPS)- MLCB Workshop 2017</i> S. Sinai , E. Kelsic, G. M. Church, M. A. Nowak
	Selection for motifs in template-free elongation of polymers within protocells <i>Gordon Research Seminar - Origin of Life 2016</i> G. Kinsler*, S. Sinai* , N. K. Lee, M. A. Nowak
	The efficiency of finding evolvable protocells <i>Microsoft Research - Computational Aspects of Biological Information 2015</i> S. Sinai* , J. Olejarz*, I. Neagu, M. A. Nowak
	Microscaled carbon nanotube-based probes for insect neuronal stimulation <i>Materials Research Society Conference 2009</i> W.M. Tsang, S. Sinaei , S. Murray, A. Stone, Z. Aldworth, R. Levine, J. G. Hildebrand, T. Daniel, A.I. Akinwande, J. Voldman
Research Experience	Wyss Institute for biologically inspired engineering July 2016- present Graduate Research Assistant - Church Lab Cambridge, MA Using computational data analysis and machine learning for high-throughput rational protein design.
	Harvard Program for Evolutionary Dynamics (PED) Sept 2014- present Graduate Student Researcher - Nowak Lab Cambridge, MA Researching evolution of information inside protocells in the origin of life context. My research also has applications in viral evolution as well as evolutionary dynamics in structured populations.

MIT Computer Science and Artificial Intelligence Laboratory July 2012 - Jan 2014
Graduate Research Assistant - Winston Lab Cambridge,MA
Built an eye tracker and designed and executed large scale online experiments on Amazon's Mechanical Turk. This study is utilized to inform models of attention allocation in computer vision.

Whitehead Institute for Biomedical Research June 2011 - December 2011
Undergraduate Researcher Cambridge,MA
Developed programs to analyze large genomic data, particularly in search for rare variants, as a part of DNA sudoku sequencing pipeline.

**Teaching
Experience**

Harvard - Math 153 Mathematical Biology Fall 2015
Teaching Fellow Cambridge,MA
Taught tutorial sessions, designed problem sets and quizzes under the supervision of Prof. Nowak. This course covers evolutionary game theory, evolutionary graph theory, and current research topics in evolutionary modeling.

MIT - 6.034 Artificial Intelligence Fall 2013
Teaching Assistant Cambridge,MA
Taught tutorial sessions, prepared and designed quiz problems, helped students with course material. The course is a second or third year requirement for computer science majors. The course covers classical A.I. as well as machine learning and computer vision.

MIT - 6.049/7.33 Evolutionary Biology Spring 2013
Teaching Assistant Cambridge,MA
Taught tutorial sessions, helped prepare 8 problem sets and 5 quizzes in collaboration with the Professors. This course covers evolutionary theory from mathematical and biological perspective.

Africa Information Technology Initiative Summer 2010
Technology Instructor Nairobi, Kenya
Taught mobile applications and web development tools for entrepreneurship to a selected group of Kenyan students at Strathmore University. Several small startups have started out of this program. For more information visit: <http://aiti.mit.edu>

Skills

Programming: Extensive experience with Python (Scipy stack, Keras, Sklearn,...). Proficient in Java, Javascript, Processing. Familiar with C/C++, TensorFlow, Matlab, pytorch.
Languages: Persian (Native), English (Bilingual fluency), German (Intermediate)

References

Prof. Martin A. Nowak: Professor of Mathematics and Biology, PED, Harvard University
Dr. Eric Kelsic: Research Fellow, Wyss Institute, Harvard Medical School
Prof. Constantinos Daskalakis: X-Window Consortium Associate Professor, EECS, MIT
Prof. Robert C. Berwick: Professor of Computational Linguistics and Computer Science and Engineering, jointly with Brain and Cognitive Sciences, CSAIL, MIT

More information samsinai.com