

Mike Jin

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EDUCATION	Harvard University 08/2015 - Present <ul style="list-style-type: none">Ph.D. candidate in Systems Biology
	Yale University 08/2009 - 05/2013 <ul style="list-style-type: none">B.S. with Distinction in Both Majors<ul style="list-style-type: none">Major 1: Computer Science and Mathematics<ul style="list-style-type: none">Senior Project: <i>Fitting Graphs to Vector Data: A Modified Approach</i>Major 2: Molecular Biophysics and Biochemistry<ul style="list-style-type: none">Senior Essay: <i>Network-based Approaches for Human Disease Gene Prediction</i>
FELLOWSHIPS & HONORS	<ul style="list-style-type: none">NSF Graduate Research Fellowship 2017Summa cum laude, Yale University 2013Harvard-MIT HST Scholar in Bioinformatics & Integrative Genomics 2012Phi Beta Kappa 2012Yale College Dean's Research Fellowship 2012, 2010
RECENT RESEARCH	Yin Lab, Harvard Medical School 2016 - Present Sensing and computation using programmable RNA-based devices. Developed nucleic acid-sensing guide RNAs for conditional activation of CRISPR-Cas9 systems based on the sequence profile present.
	Spielman Group, Yale University 2013 Implemented an algorithm to fit sparse graphs to vector data using convex optimization; investigated alternate implementations and objective functions
	Gerstein Lab, Yale University 2010-2013 Data mining of human genome variation data across human ethnic groups; developed a pipeline for annotation of human loss-of-function transcript variants (ALoFT)
	Vidal Lab, Dana-Farber Cancer Institute 2012 Prediction and discovery of cancer genes using a biological network algorithm on a novel protein-protein interaction network
WORK EXPERIENCE	Software Engineer, Microsoft 2013-2015 <ul style="list-style-type: none">I was the sole engineer who rebuilt the server side data access service for Microsoft Dynamics AX, intended to succeed existing data access services as the primary means for read/write operations.
	Management Consulting Intern, A.T. Kearney 2011 <ul style="list-style-type: none">I designed a decision-making framework for IT help desk service consolidation for large-scale client based on industry best practices and primary research.My framework was used to arrive at a design that met performance and cost imperatives.
	Technology Intern, Walt Disney Imagineering 2011 <ul style="list-style-type: none">I built internal websites for multiuser dynamic content viewing and sharingI collaborated with international contractors in writing primary web components and back end components for multiple applications

TEACHING
EXPERIENCE

Teaching Fellow, Integrated Science

Spring 2018

- Wrote problem sets and exams and prepared lectures for discussion sections for a double-credit course consisting of 32 first-year Harvard undergraduates, covering topics in biochemistry, population genetics, dynamical systems, stochastic processes, neuroscience, and structural biology.

PUBLICATIONS

- (2017) Suganthi Balasubramanian, Yao Fu, Mayur Pawashe, Patrick McGillivray, **Mike Jin**, Jeremy Liu, Konrad J. Karczewski, Daniel G. MacArthur, and Mark Gerstein. "Using ALoFT to determine the impact of putative loss-of-function variants in protein-coding genes." *Nature Communications* Aug. 2017; 8(382). doi: 10.1038/s41467-017-00443-5.
- (2014) Thomas Rolland et al. (70 authors). "A Proteome-Scale Map of the Human Interactome Network." *Cell* Nov. 2014; 159(5): 1212-1226.
- (2012) The 1000 Genomes Project Consortium (collaborator in Analysis Group among 692 contributors). "An integrated map of genetic variation from 1,092 human genomes." *Nature* Nov. 2012; 491(4722): 56-65.
- (2012) Daniel MacArthur et al. (52 authors). "A systematic survey of loss-of-function variants in protein-coding genes." *Science* Feb. 2012; 335(6070): 823-828.
- (2007) Ying Yan, Qing Tan, Yian Wang, Daolong Wang, **Mike Jin**, Terry Gordon, Ronald A. Lubet, and Ming You. "Enhanced lung tumor development in tobacco-smoke p53 transgenic and Kras2 heterozygous deficient mice." *Inhalation Toxicology* 2007 Suppl. 1: 183-187.
- (2005) **Mike Jin** and Ming You. "Book Review." Rev. of *Cancer Chemoprevention Vol. 2: Strategies for Cancer Chemoprevention*, ed. G.J. Kelloff, E.T. Hawk, and C.C. Sigman. *Oncology* Dec. 2005; 69(6): 470.

CONFERENCE
PRESENTATIONS

- (2018) *Engineering RNA-sensing CRISPR-Cas Systems*. Mike Jin. 6th Annual Winter Q-Bio Conference. Grand Wailea: Wailea, HI, USA.
- (2017) *Sensitive Detection of Biomolecules Using Programmable Toehold Switches*. Poster presentation by Mike Jin. 5th Annual Winter Q-Bio Conference. Grand Hyatt Kauai: Koloa, HI, USA.
- (2008) *D₂O Substitution Experiments on Hydrated Iron and Magnesium Sulfates and its Application for Spectral Interpretation of Martian Sulfates*. Poster presentation by Mike Jin. 39th International Lunar and Planetary Science Conference. South Shore Conference Center: League City, Texas, USA.
- (2008) *Diffuse Reflectance Spectral Features of FeSO₄·X₂O Using D₂O Substitution*. Mike Jin. 17th Annual Meeting of the NASA-Missouri Space Grant Consortium. Missouri University of Science and Technology: Rolla, Missouri, USA.
- (2007) *Hydration States of Ferric Sulfates on Mars*. Mike Jin. 16th Annual Meeting of the NASA-Missouri Space Grant Consortium. Washington University: St. Louis, Missouri, USA.

TECHNICAL
SKILLS

Programming languages: C#, X++, Python, Java, C++, C, PHP, JQuery, SQL

Familiar with advanced .NET and native code debugging, experienced with writing data services

LANGUAGES

Native: English (St. Louis, USA)

Heritage: Mandarin (Fluent)

Modern Languages: French (Proficient): 7 years study