Yusuf H. Roohani

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EDUCATION

Stanford University, Stanford, CA　　　　　　　　　　　*Jan 2020 - Present*
Ph.D., Biomedical Data Science, Advisors: Jure Leskovec, Stephen Quake　　GPA: 4.10/4.0
Graph representation learning, Systems Biology, Experiment Design, Distribution Shift

Carnegie Mellon University, Pittsburgh, PA　　　　　　　*Jan 2014 - Aug 2015*
M.S., Mechanical Engineering. Advisor: Peter Adams, Allen Robinson　　GPA: 4.0/4.0
Atmospheric Physics, Fluid Dynamics, Machine Learning, Computer Systems

Vellore Institute of Technology, Vellore, India　　　　　*Jul 2009 - Jun 2013*
B.Tech., Mechanical Engineering.　　　　　　　　　　　　　　GPA: 8.81/10
GRE: Verbal: (98 percentile) 168/170, Quant: (94 percentile) 168/170　　　336/340

WORK EXPERIENCE

GlaxoSmithKline, San Francisco, CA
AI/ML Engineer (Level 6)　　　　　　　　　　　　　　　*Jan 2020 - Present*
Employed at GSK during PhD at Stanford. No restrictions on PhD research. See Awards

GlaxoSmithKline, Cambridge, MA
Manager, Machine Learning Engineer (Level 6)　　　　　*Apr 2019 - Jan 2020*
Investigator (Level 7)　　　　　　　　　　　　　　　　*Nov 2017 - Mar 2019*
Data Scientist (Level 8)　　　　　　　　　　　　　　　*Jul 2016 - Oct 2017*
- Industrialized an end-to-end machine learning system for phenotypic drug discovery
- Led a team of 4 to develop a computer vision platform for high throughput cellular imaging
- Applied to an active program for discovering new biological targets
- Created and lead company-wide machine learning journal club, monthly attendance >30
- Active contributor to team strategy, leadership engagement, academic collaborations

Theranos Inc., Palo Alto, CA
Associate Scientist, Modeler　　　　　　　　　　　　　*May 2016 - Jun 2016*
- Designed statistical & mechanistic approaches to predict diabetes onset using blood testing

Merrimack Pharmaceuticals, Cambridge, MA
Computational Modeler Intern　　　　　　　　　　　　*Sep 2015 - Apr 2016*
- Developed dynamic system models to mechanistically simulate signaling networks in cancer
- Compared results against patient data to identify biomarkers for patient stratification

Carnegie Mellon University, Pittsburgh, PA
Research Assistant　　　　　　　　　　　　　　　　　*May 2014 - Aug 2015*
- Led a DOE sponsored project to model impacts of shale development on ozone, $PM_{2.5}$
- Published policy recommendations based on results and current federal regulations.

Tata Industries, Mumbai, India
Technical Analyst Intern　　　　　　　　　　　　　　*Sep 2013 - Nov 2013*
- Studied the latest research in material science under the strategic venture capital division
- Advised board on investments in commercially viable options through market research

HONORS AND AWARDS	**Full PhD funding** awarded by GSK, including tuition + regular full-time pay for 5yr *(2019)* **GSK Exceptional Science Award** Deep learning for cellular images ($17000) *(2018)* **Advisory Board Member** for MS in Data Analytics, Tufts University *(2018)* **Research Assistantship** Awarded a PhD level research stipend as a Master's student *(2015)* **Undergraduate Research Assistantship** Birck Nanotechnology Centre, Purdue *(2013)* **Merit Certificates, Academic Excellence** (International student) (x4) *(2010/11/12/13)*
JOURNAL PUBLICATIONS	Shokoohi H., LeSaux M., **Roohani Y.**, Litepio A., Huang C., Blaivas M. Enhanced point-of-care ultrasound applications by integrating automated feature-learning systems using deep learning, *J Ultrasound Med.*, 2018 **Roohani, Y.**, Roy, A., Heo, J., Robinson, A., & Adams, P. Impact of natural gas development in the Marcellus and Utica Shales on regional ozone and fine particulate matter levels. *Atmospheric Environment*, 2017.
CONFERENCES	Huang, K., Fu, T., Gao, W., Zhao, Y., **Roohani, Y.**, Leskovec, J., Coley, C.W., Xiao, C., Sun, J. and Zitnik, M., 2021. Therapeutics Data Commons: Machine Learning Datasets and Tasks For Therapeutics. *NeurIPS 2021* **Roohani Y.**, Sajid N., Hope T., Price C., Madhyastha P., Predicting Language Recovery after Stroke with Convolutional Networks on Stitched MRI, *NeurIPS ML4H Workshop*, 2018 **Roohani, Y.**, Accelerating Phenotypic Drug Discovery using Deep Learning based Image Analysis *New York Academy of Science, Symp. Deep Learning in Drug Discovery*, 2018
PREPRINTS	Bommasani, R., Hudson, D. A., ... **Roohani, Y.**, ... Liang, P. (2021). On the opportunities and risks of foundation models. arXiv preprint *arXiv*:2108.07258.
INVITED TALKS	**Assessing biological diversity of a compound collection using high throughput cellular imaging** Society for Lab Automation and Screening Conference, 2020 **Guest Lecture: Data Analytics and Machine Learning in Drug Discovery.** School of Engineering, Tufts University, 2019 **Accelerating High Throughput Drug Discovery Using Deep Learning.** ReWork, Deep Learning for Healthcare, Boston 2018
REVIEWING	MICCAI (2019), NeurIPS: AI for Science (2021)
SKILLS	**Computer Programming:** Python, R, C, C++, Fortran, Bash **Applications**: PyTorch, Tensorflow, MATLAB, LaTeX, Git

Selected Coursework (Stanford)	Course	Number	Grade	Term
	Machine Learning under Distribution Shift	**CS 329D**	**A+**	Spring 2021
	Design and Analysis of Algorithms	**CS 161**	**A+**	Summer 2020
	Machine Learning	**CS 229**	**A**	Spring 2020
	Fundamentals of Real Analysis	**MATH 171**	**A**	Spring 2020
	Computational Molecular Biology	**CS 274**	**A**	Fall 2020
	Artifical Intelligence	**CS 221**	**A**	Fall 2020
	Machine Learning with Graphs	**CS 224W**	**A**	Fall 2019

Extra-Curriculars

Executive Director of the Debate Society, VIT *Jul 2010 - May 2012*

Personally trained more than 50 fellow students in effective argumentation through organizing and conducting regular sessions and debates. Independently drafted a written constitution.