# Yusuf H. Roohani

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**Education**

**Carnegie Mellon University**, Pittsburgh, PA — *Jan 2014 - Aug 2015*
M.S., Mechanical Engineering.    GPA: 4.0/4.0
Coursework: Machine Learning, Computer Systems (15-213), Robot Kinematics and Dynamics, Computational Fluid Dynamics, Microfluidics, Microelectromechanical Systems

**Vellore Institute of Technology**, Vellore, India — *Jul 2009 - Jun 2013*
B.Tech., Mechanical Engineering.    GPA: 8.81/10
**GRE**: Verbal: (99 percentile) 168/170, Quant: (95 percentile) 168/170    336/340

**Coursework while working full-time**

**Harvard Extension School**, Cambridge, MA — *Jul 2016 - May 2017*
Linear Algebra & Real Analysis (23A), Mathematical Statistics (E-156),    GPA: 4.0/4.0
Data Structures and Algorithms (CS-124)

**Work Experience**

**GlaxoSmithKline**, Cambridge, MA
Manager, Data Science    *Starting Apr 2019*

**GlaxoSmithKline**, Cambridge, MA
Investigator    *Nov 2017 - Mar 2019*
- Leading a team of 4 to develop a computer vision platform for high throughput discovery
- Relating phenotypic readouts from cellular imaging with other datatypes eg: genomics
- Designing both the models and the end to end software workflows
- Created and lead company-wide machine learning journal club, monthly attendance >30

**GlaxoSmithKline**, Waltham, MA
Data Scientist    *Jul 2016 - Oct 2017*
- Conducting machine learning research to uncover new drug targets and lead molecules
- Main efforts: Designing deep learning solutions for cellular imaging, histopathology
- Designed regular feedforward approaches as well as generative models, with validation
- 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 disease 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 an NETL 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

SKILLS

**Computer Programming:** Python, R, C, C++, Fortran, Bash, OWL/SWRL
**Applications**: Tensorflow, MATLAB, LaTeX, Git, SQL, SolidWorks, Protege, Caffe

POSTERS

**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
**Roohani, Y.**, Hoffman, A., Musso, R., Richmond, N., Deep Learning for Robust Phenotyping of High Content Cellular Images *High Content Analysis*, 2017
Curley, M., Tan, G., Yannatos, I., Camblin, A., **Roohani, Y.**, Iadevaia, S., Louis, C., Lugovskoy, A. Istiratumab (MM-141), a bispecific antibody targeting IGF-1R and ErbB3, inhibits pro-survival signaling in vitro ... *AACR*, 2016. Abstract nr 1209.

PUBLICATIONS

**Roohani Y.**, Kiss E., Improving Accuracy of Nuclei Segmentation by Reducing Histological Image Variability. In: Stoyanov D. et al. (eds) Computational Pathology and Ophthalmic Medical Image Analysis. MICCAI, COMPAY 2018. *LNCS*, vol 11039. Springer, 2018
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.

INVITED TALKS

**Accelerating High Throughput Drug Discovery Using Deep Learning** ReWork, Deep Learning for Healthcare, Boston 2018

REVIEWING

MICCAI

HONORS AND AWARDS

**GSK Exceptional Science Award** For application and embedding of deep learning
to the challenge of phenotyping cellular images ($17000 in cash and shares)        *(2018)*
**GSK R&R Award** For significant efforts at training colleagues in data science        *(2018)*
**Advisory Board Member** Serving on the board for MS in Data Analytics at Tufts University Graduate School of Arts and Sciences        *(2018)*
**Ranked in top 11%** as a one-person team in the 2018 Kaggle Data Science Bowl for segmenting nuclei in optical micrscopy images        *(2018)*
**Data Study Group Participant** Selected to participate in a data study group (with paid travel and accomodation) at the Alan Turing Institute in London, UK.        *(2018)*
**Research Assistantship** Awarded a PhD level research stipend as a Master's student *(2015)*
**Undergraduate Research Assistantship** Tuition covered for spending a semester at a nanotechnology research centre at Purdue University for my undergraduate thesis        *(2013)*
**Merit Certificate for Academic Excellence** (International student category) for each of the 4 years in college        *(2010/11/12/13)*

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.