

# Yusuf H. Roohani

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| CONTACT                                  | www.yusufroohani.com   | yusuf.roohani@gmail.com | Linkedin |
| EDUCATION                                | <b>Stanford University</b> , Stanford, CA <i>Starting Mar 2020</i><br>Ph.D., Biomedical Informatics  |                         |          |
|  | <b>Carnegie Mellon University</b> , Pittsburgh, PA <i>Jan 2014 - Aug 2015</i><br>M.S., Mechanical Engineering. GPA: 4.0/4.0<br>Machine Learning, Computer Systems, Robot Kinematics, Computational Fluid Dynamics,   |                         |          |
|  | <b>Vellore Institute of Technology</b> , Vellore, India <i>Jul 2009 - Jun 2013</i><br>B.Tech., Mechanical Engineering. GPA: 8.81/10<br><b>GRE</b> : Verbal: (98 percentile) 168/170, Quant: (94 percentile) 168/170 336/340  |                         |          |
| COURSEWORK<br>WHILE WORKING<br>FULL-TIME | <b>Harvard Extension School</b> , Cambridge, MA <i>Jul 2016 - May 2017</i><br>Linear Algebra & Real Analysis (MATH-23A), Mathematical Statistics (E-156) GPA: 3.8/4<br>Data Structures and Algorithms (CS-124)   |                         |          |
| WORK<br>EXPERIENCE                       | <b>GlaxoSmithKline</b> , Cambridge, MA <i>Apr 2019 - Present</i><br><b>Manager, Machine Learning Engineer</b>  |                         |          |
|  | <b>Investigator</b> <i>Nov 2017 - Mar 2019</i> <ul style="list-style-type: none"><li>• Leading a team of 4 to develop a computer vision platform for high throughput discovery</li><li>• Relating phenotypic readouts from cellular imaging with other datatypes eg: genomics</li><li>• Designing both the models and the end to end software workflows</li><li>• Created and lead company-wide machine learning journal club, monthly attendance &gt;30</li></ul>                 |                         |          |
|  | <b>Data Scientist</b> <i>Jul 2016 - Oct 2017</i> <ul style="list-style-type: none"><li>• Conducted machine learning research to uncover new drug targets and lead molecules</li><li>• Main efforts: Designing deep learning solutions for cellular imaging, histopathology</li><li>• Designed regular feedforward approaches as well as generative models, with validation</li><li>• Active contributor to team strategy, leadership engagement, academic collaborations</li></ul> |                         |          |
|  | <b>Theranos Inc.</b> , Palo Alto, CA <i>May 2016 - Jun 2016</i><br><b>Associate Scientist, Modeler</b> <ul style="list-style-type: none"><li>• Designed statistical &amp; mechanistic approaches to predict diabetes onset using blood testing</li></ul>   |                         |          |
|  | <b>Merrimack Pharmaceuticals</b> , Cambridge, MA <i>Sep 2015 - Apr 2016</i><br><b>Computational Modeler Intern</b> <ul style="list-style-type: none"><li>• Developed dynamic system models to mechanistically simulate signaling networks in cancer</li><li>• Compared results against patient data to identify biomarkers for patient stratification</li></ul>  |                         |          |
|  | <b>Carnegie Mellon University</b> , Pittsburgh, PA <i>May 2014 - Aug 2015</i><br><b>Research Assistant</b> <ul style="list-style-type: none"><li>• Led a DOE sponsored project to model impacts of shale development on ozone, PM<sub>2.5</sub></li><li>• Published policy recommendations based on results and current federal regulations.</li></ul>   |                         |          |

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|                   | <p><b>Tata Industries</b>, Mumbai, India</p> <p><b>Technical Analyst Intern</b> <span style="float: right;"><i>Sep 2013 - Nov 2013</i></span></p> <ul style="list-style-type: none"> <li>• Studied the latest research in material science under the strategic venture capital division</li> <li>• Advised board on investments in commercially viable options through market research</li> </ul>  |
| HONORS AND AWARDS | <p><b>Full PhD funding</b> awarded by GSK, including a stipend equal to full-time pay (2019)</p> <p><b>GSK Exceptional Science Award</b> For application and embedding of deep learning to the challenge of phenotyping cellular images (\$17000 in cash and shares) (2018)</p> <p><b>Advisory Board Member</b> for MS in Data Analytics program at Tufts University (2018)</p> <p><b>Data Study Group Participant:</b> Paid travel, stay at the Alan Turing Institute (2018)</p> <p><b>Research Assistantship</b> Awarded a PhD level research stipend as a Master's student (2015)</p> <p><b>Undergraduate Research Assistantship</b> Tuition covered for spending a semester at a nanotechnology research centre at Purdue University for my undergraduate thesis (2013)</p> <p><b>Merit Certificates, Academic Excellence</b> (International student) (x4) (2010/11/12/13)</p> |
| SKILLS            | <p><b>Computer Programming:</b> Python, R, C, C++, Fortran, Bash, OWL/SWRL</p> <p><b>Applications:</b> Tensorflow, PyTorch, MATLAB, L<sup>A</sup>T<sub>E</sub>X, Git, SQL, SolidWorks, Protege</p>   |
| POSTERS           | <p><b>Roohani Y.</b>, Sajid N., Hope T., Price C., Madhyastha P., Predicting Language Recovery after Stroke with Convolutional Networks on Stitched MRI, <i>NeurIPS ML4H Workshop</i>, 2018</p> <p><b>Roohani, Y.</b>, Accelerating Phenotypic Drug Discovery using Deep Learning based Image Analysis <i>New York Academy of Science, Symp. Deep Learning in Drug Discovery</i>, 2018</p> <p><b>Roohani, Y.</b>, Hoffman, A., Musso, R., Richmond, N., Deep Learning for Robust Phenotyping of High Content Cellular Images <i>High Content Analysis</i>, 2017</p> <p>Curley, M., Tan, G., Yannatos, I., Camblin, A., <b>Roohani, Y.</b>, Iadevaia, S., Louis, C., Lugovskoy, A. Istiratumab (MM-141), a bispecific antibody targeting IGF-1R and ErbB3, inhibits pro-survival signaling in vitro ... <i>AACR</i>, 2016. Abstract nr 1209.</p>                                    |
| PUBLICATIONS      | <p><b>Roohani Y.</b>, 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. <i>LNCS</i>, vol 11039. Springer, 2018</p> <p>Shokoohi H., LeSaux M., <b>Roohani Y.</b>, Litepio A., Huang C., Blaivas M. Enhanced point-of-care ultrasound applications by integrating automated feature-learning systems using deep learning, <i>J Ultrasound Med.</i>, 2018</p> <p><b>Roohani, Y.</b>, Roy, A., Heo, J., Robinson, A., &amp; Adams, P. Impact of natural gas development in the Marcellus and Utica Shales on regional ozone and fine particulate matter levels. <i>Atmospheric Environment</i>, 2017.</p>  |
| INVITED TALKS     | <p><b>Accelerating High Throughput Drug Discovery Using Deep Learning.</b> ReWork, Deep Learning for Healthcare, Boston 2018</p> <p><b>Guest Lecture: Data Analytics and Machine Learning in Drug Discovery.</b> Foundations of Data Analytics, School of Engineering, Tufts University, 2019</p> <p><b>Assessing biological diversity of a compound collection using high throughput cellular imaging</b> Society for Lab Automation and Screening Conference, 2020</p>   |
| REVIEWING         | <p>MICCAI (2019)</p>   |
| EXTRA-CURRICULARS | <p><b>Executive Director of the Debate Society, VIT</b> <span style="float: right;"><i>Jul 2010 - May 2012</i></span></p> <p>Personally trained more than 50 fellow students in effective argumentation through organizing and conducting regular sessions and debates. Independently drafted a written constitution.</p>  |