

# Viraat Reddy Aryabumi

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<b>EDUCATION</b>	<b>University of Edinburgh</b> 08/2017 - 9/2018 MSc., Artificial Intelligence Distinction
	<b>Stanford University Summer Session</b> 06/2016 - 08/2016 Intensive in Technology & Entrepreneurship Grade: A
	<b>Osmania University, Chaitanya Bharathi Institute of Technology</b> 09/2012 - 05/2016 Bachelor's of Engineering, Information Technology GPA: 4.0 Score: 80.2%
<b>EXPERIENCE</b>	<b>AI Fellow   Fellowship AI</b> 09/2018 - 12/2018 <ul style="list-style-type: none"><li>Implemented 1-cycle learning policy to achieve 83.6% accuracy in Chest X-Ray disease classification.</li><li>Worked on improving fine-grained image classification results using selective pre-training of Networks.</li></ul>
	<b>Coordinator Research Catalogue   Technology Transfer Office, IIIT-H Foundation</b> 01/2017 - 08/2017 <ul style="list-style-type: none"><li>Worked with faculty of 6 AI research centers to identify and develop technology projects with commercial potential. Compiled a research catalogue to facilitate technology transfer and establish relationships with industry.</li><li>Selected to take part in the 'Entrepreneur-in-residence' program. Performed market and idea validation of 'Indic OCR' technology developed at IIIT-H.</li></ul>
	<b>Remote Software Engineering Intern   BYOR</b> 9/2016 - 12/2016 <ul style="list-style-type: none"><li>Improved skill suggestion engine for BYOR - an AI powered resume helper - resulting in 2% improvement of quality of phrases returned.</li></ul>
	<b>Assistant Product Engineer   Social Entrepreneurship Lab, Stanford University</b> 7/2014 - 9/2014 <ul style="list-style-type: none"><li>Developed a low-cost, compact demonstration kit for the drip irrigation company Driptech. Development involved multiple design thinking cycles from need-finding to prototyping.</li><li>Instrumental in innovating the design for the final demo kit that was put into production.</li></ul>
<b>RELEVANT COURSES</b>	<b>Graduate:</b> Machine Learning & Pattern Recognition, Machine Learning Practical, Computational Cognitive Neuroscience, HCI, Reinforcement Learning, Algorithmic Game Theory, The Human Factor, Decision Making in Robots <b>Summer Session:</b> Data Mining, Leading Trends in IT, Psychology of Technology, Sustainability Design Thinking <b>Undergraduate:</b> Data Structures, Discrete Mathematics, Probability & Random Processes, Software Engineering, Databases (DBMS), Operating Systems, AI, Design & Analysis of Algorithms, Distributed Systems <b>Online:</b> Self Driving Car Nanodegree* (Udacity), Machine Learning (Coursera), Learning how to learn, fast.ai*
<b>RESEARCH</b>	<b>Thesis: Investigating Adversarially learning to achieve Fairness in Images<sup>†</sup></b> 5/2018 - 8/2018 <ul style="list-style-type: none"><li>Investigated Adversarial learning methods to obtain representations of images such that it is possible to predict a target attribute but difficult to predict a sensitive attribute. Experiments conducted on two synthetic datasets.</li></ul>
	<b>Review: Learning to play video games using Deep Reinforcement Learning<sup>†</sup></b> 11/2017 - 1/2018 <ul style="list-style-type: none"><li>A review of recent advancements in the field of Deep Reinforcement Learning applied to video games in the ALE.</li></ul>
	<b>Review: Model Based Reasoning becomes Automatic in humans with training<sup>†</sup></b> 10/2017 - 12/2017 <ul style="list-style-type: none"><li>A review of decision making models in humans highlighting the relationship between model-based and model-free learning. Focused on effects of training for performance of resource intensive tasks under distraction.</li></ul>
<b>PROJECTS</b>	<b>Hindsight Experience Replay   Informatics, University of Edinburgh</b> 5/2018 - 5/2018 <ul style="list-style-type: none"><li>Implemented Hindsight Experience Replay and a bit flipping environment in PyTorch.</li></ul>
	<b>Learning to play Super Mario*   Informatics, University of Edinburgh</b> 8/2018 - present <ul style="list-style-type: none"><li>Train an agent to play Super Mario Bros. in OpenAI Gym using deep reinforcement learning.</li><li>Analysis of problems in Deep RL and suggest various ways from the literature to address them.</li></ul>
	<b>Advanced Lane Finding   Self Driving Nanodegree, Udacity</b> 1/2018 - 2/2018 <ul style="list-style-type: none"><li>Implemented a software pipeline to identify the lane boundaries in a video using Computer Vision Techniques.</li></ul>
	<b>Vehicle Detection   Self Driving Nanodegree, Udacity</b> 1/2018 - 2/2018 <ul style="list-style-type: none"><li>Implemented Tiny YOLOv2, a Deep learning based approach to detect vehicles in a video stream.</li></ul>
	<b>Traffic Sign Image Classification   Self Driving Nanodegree, Udacity</b> 12/2017 - 1/2018 <ul style="list-style-type: none"><li>Classify traffic sign images using LeNet5 architecture. Augmented data to improve test accuracy to 91.75%.</li></ul>
	<b>Identification of Crop Diseases   Dept. of IT, CBIT</b> 7/2015 - 4/2016 <ul style="list-style-type: none"><li>Identify crop diseases by extracting features from photos of leaves of the diseased crop. Implemented using a SVM.</li></ul>
	<b>Smart Home Automation using Arduino   Dept. of IT, CBIT</b> 1/2015 - 4/2015 <ul style="list-style-type: none"><li>Used an Arduino to develop a home automation system which learns user behaviour using a decision tree algorithm.</li></ul>
<b>COMPUTER SKILLS</b>	<b>Languages:</b> Python, MATLAB, L <sup>A</sup> T <sub>E</sub> X <b>Frameworks/Packages:</b> PyTorch, Numpy, pandas, matplotlib, Keras, Tensorflow
<b>ACTIVITIES</b>	<ul style="list-style-type: none"><li>Won 2nd place at <b>UnBias Hackathon 2018</b></li><li>Core team member and contributing author of <b>Skynet today</b>: a website providing informed coverage of AI news</li><li>Represented the University of Edinburgh in <b>British Universities &amp; Colleges Sport Golf</b></li></ul>

\* currently pursuing

† unpublished