

SANYAM AGARWAL

MACHINE LEARNING ENGINEER

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SUMMARY

Experienced in developing and implementing deep learning and reinforcement learning models in computer vision and natural language processing. Looking for software engineering roles in machine learning.

EMPLOYMENT

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| Sept. 2018 to Current | Georgia Institute of Technology · Visiting Research Scholar · Atlanta, GA, USA
Advised by Prof. Dhruv Batra and Prof. Devi Parikh. Performing research in the areas of machine learning, reinforcement learning, computer vision, and natural language processing. Developed models for generating navigational instructions for navigational trajectories in Matterport3D (a photo-realistic 3D indoor environment). |
| Nov. 2017 to July 2018 | Indian Institute of Science · Research Intern · Bengaluru, India
Advised by Prof. Ambedkar Dukkipati. Performed research in semi-supervised learning and natural language processing. Developed a decoder-less Skip-Thought Vectors model which trained 10 times faster. Worked on generative adversarial networks (GANs). Developed models that learn to access a knowledge base (KB) for answering questions. |
| June 2016 to Oct. 2017 | Software Robotics Corporation (Soroco) · Platform Engineer · Bengaluru, India
- Led a team which used deep learning to automatically find easy-to-automate processes.
- Designed and implemented a novel, patent-pending enterprise distributed systems framework for developing automation systems which is operational at Fortune 500 companies. |
| May 2015 to July 2015 | Facebook · Software Engineering Intern · Menlo Park, CA, USA
Worked with the configuration management team in the Core Engineering Group. Found and fixed bottlenecks in existing architecture. Parallelized configuration checking service by splitting into master and slaves, speeding it up by 1000 times. |

EDUCATION

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| July 2012 to May 2016 | Indian Institute of Technology (IIT) Kharagpur, India
Bachelor of Technology (Honours) Computer Science and Engineering
Relevant Courses: Machine Learning, Matrix Algebra, Probability and Statistics, Artificial Intelligence, Algorithms-II, Discrete Structures. Relevant courses' GPA: 9.67/10 |
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SKILLS

PROGRAMMING LANGUAGES	python, c++, c, java, javascript, html, sql, php
MACHINE LEARNING TOOLS	pytorch, tensorflow, numpy, tensorboard

PUBLICATIONS

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| June 2019 | Visual Landmark Selection for Generating Grounded and Interpretable Navigation Instructions
S. Agarwal, D. Parikh, D. Batra, P. Anderson, S. Lee
CVPR'19 Workshop on Deep Learning for Semantic Visual Navigation |
| June 2017 | AppTechMiner: Mining Applications and Techniques from Scientific Articles ·
M. Singh, S. Dan, S. Agarwal, P. Goyal, A. Mukherjee
Joint Conference on Digital Libraries (JCDL) 2017:6th International Workshop On Mining Scientific Publications |

PROJECTS

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| Sept. 2018 to Current | Generating Grounded and Interpretable Navigational Instructions
Developed a hard-attention model, trained using gumbel-softmax straight through estimator, for generating navigational instructions given the visual and directional input of navigational trajectory in a photo-realistic 3D environment. Working on fine-tuning instruction generation using reinforcement learning methods such as self-critical sequence training and variants of the actor-critic method. |
| May 2013 to May 2016 | Robo-Soccer, IIT Kharagpur
- Led the Artificial Intelligence team.
- Created a framework for learning robot control policies for playing soccer. Won a bronze medal in FIRA 2015, South Korea.
- Planned and organized an all-India competition for simulated robot-soccer "Code-o-soccer" to increase awareness about and interest in robotics in colleges all over the country. |

AWARDS

Aug. 2009	Department of Science and Technology, Government of India · NTSE Scholarship (National Talent Search Examination) Awarded to less than 1% applicants based on their scholastic achievements.
Aug. 2011	Department of Science and Technology, Government of India · KVPY Fellow (Kishore Vaigyanik Protsahan Yojana Fellow) Awarded to just ~100 students all over India with high academic potential.
Sept. 2012	Aditya Birla Group · Aditya Birla Scholarship Awarded to just 15 students all over the from the best engineering and management colleges of India.
Feb. 2013	OP Jindal Group · OP Jindal Engineering and Management Scholarship Awarded to just 4 students from each of the few top-tier engineering and management colleges in India.

COMPETITIONS

2012	IIT Joint Entrance Exam Achieved an all-India rank of 332. This Equals a percentile of 99.95
2014	ACM-International Collegiate Programming Contest (ICPC) · Amritapuri, Kerala, India Got rank 32 among the top 400 teams from all over India at the main regional site of India.
2015	Google Code Jam Got rank 386 in round 2.
2013 to 2015	BitWise - IIT Kharagpur's flagship competitive programming contest. Topped college for three consecutive years.
2015	IBM Hackathon First prize for developing a multilingual messaging app that let's like-minded people connect easily.
2009 to 2011	Regional Olympiads Qualified Regional Mathematics Olympiad (RMO) in 2009, National Standard examination in Astronomy (NSEA) in 2009, and National Standard Examination in Chemistry (NSEC) in 2011.

ACTIVITIES

July 2015	Kgp Logical · Founder Founded a group of competitive programming enthusiasts at my college IIT Kharagpur.
Aug. 2012 to May 2016	Dramatics Society, IIT Kharagpur - Won a gold medal in inter-hall dramatics contest.
2012	Birla Vidya Niketan (High School), New Delhi, India · Science Secretary Was appointed the Science Secretary of the school. Designed and coordinated inter-school experimental physics competition.
July 2012 to May 2014	National Service Scheme, IIT Kharagpur · Unit-6 Group Leader Location: Gholghoria village, West Bengal, India Taught English and Mathematics to the children in the local primary school. Planned and conducted rallies for raising awareness on social issues such as female foeticide, education, and sanitation.