

Shubham Dokania

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Education

International Institute of Information Technology Hyderabad

MS BY RESEARCH IN COMPUTER SCIENCE (CGPA: 8.7)

Hyderabad, India

Aug. 2020 - Present

Delhi Technological University

B.TECH IN MATHEMATICS AND COMPUTING (CGPA: 7.41)

Delhi, India

Aug. 2013 - May 2017

North Delhi Public School

ALL INDIA SENIOR SECONDARY CERTIFICATE EXAMINATION (87.6%)

Delhi, India

May 2013

Research

Journals

- Garg Neelansh*, Apuroop Sethupathy*, Rudraksh Tuwani*, Rakhi Nk*, **Shubham Dokania***, Arvind Iyer, Ayushi Gupta et al. "FlavorDB: a database of flavor molecules." *Nucleic Acids Research* 46, no. D1 (2018)
- Wadhwa, Somin*, Aishwarya Gupta*, **Shubham Dokania***, Rakesh Kanji, and Ganesh Bagler. "A hierarchical anatomical classification schema for prediction of phenotypic side effects." *PloS One* 13, no. 3 (2018).

Conference & Workshops

- **Shubham Dokania**, A.H. Abdul Hafez, Anbumani Subramanian, Manmohan Chandraker, C.V. Jawahar. "IDD-3D: Dataset for Driving on Unstructured Roads" *WACV 2023*
- **Shubham Dokania**, Anbumani Subramanian, Manmohan Chandraker, C.V. Jawahar. "TRoVE: Transforming Road Scene Datasets into Photorealistic Virtual Environments." *ECCV 2022*
- **Shubham Dokania***, Vasudev Singh*. "Graph Representation learning for Audio & Music genre Classification." *NeurIPS 2019 Workshop Paper*
- **Shubham Dokania**, Ayush Chopra, Feroz Ahmad, S. Indu, and Santanu Chaudhury. "Unsupervised Feature Descriptors Based Facial Tracking over Distributed Geospatial Subspaces." *International Conference on Pattern Recognition and Machine Intelligence, 2017.*
- **Shubham Dokania**, Ayush Chopra, Feroz Ahmad, and Anil Singh Parihar. "Hierarchy Influenced Differential Evolution: A Motor Operation Inspired Approach." *9th International Joint Conference on Computational Intelligence (IJCCI) 2017*
- **Shubham Dokania**, Sunyam Bagga, and Rohit Sharma. "Opportunistic Self Organizing Migrating Algorithm for real-time Dynamic Traveling Salesman Problem." *51st Annual Conference on Information Sciences and Systems (CISS 2017)*

Patents

- **Shubham Dokania** "Automatic Seat Pre-adjustment with body-height estimation using visual cues and gaussian process" (Filed as an offensive patent)

Experience

CVIT, IIT Hyderabad

GRADUATE RESEARCH STUDENT

Hyderabad, India

Nov. 2020 - Present

- Working on Autonomous Driving and mobility along with focus on synthetic data generation, supervised Dr. C.V. Jawahar, Dr. Manmohan Chandraker, and Dr. Anbumani Subramanian.
- Research on autonomous driving datasets, 3D vision and applications for deep learning & synthetic data.

Mercedes-Benz Research & Development India

RESEARCH ENGINEER

Bengaluru, India

Aug. 2018 - Nov. 2020

- Applied Research in Deep Learning with focus on Computer Vision for Intelligent Interior in Mercedes-Benz Cars.
- Worked extensively on MBUX Intelligent Interior Assistant, and sub-modules.

Attentive.AI

RESEARCH ENGINEER (LEAD)

New Delhi, India

Feb. 2018 - June 2018

- Supervised a team for revolutionizing building footprint extraction using deep learning and computer vision on Satellite Imagery.
- Worked on Adversarial Training of segmentation models, and their accurate mapping to GIS systems.

Ambient AI

ML INTERN

Palo Alto, CA (Remote)

Oct. 2017 - Jan. 2018

- worked on multi-camera systems for surveillance systems and activity monitoring.
- Undertook the construction of a fast annotation tool for labelling and marking of objects with model-in-loop technology.

CVIT Group, IIIT Hyderabad

RESEARCH INTERN

Hyderabad, India

Aug. 2017 - Oct. 2017

- Dealt with problems related to Reinforcement Learning and possible applications to Computer Vision tasks via analysis in simulated environments. Compared performances of various methods on toy tasks.

CoSys Lab, IIIT-Delhi

VISITING RESEARCH INTERN

New Delhi, India

May 2017 - Aug. 2017

- Worked on the application of Data Science to the task of drug side-effect prediction as a multi-class learning problem with sparse data, along with molecular level analysis of food ingredients.

Coding Blocks Pvt. Ltd.

INSTRUCTOR AND MENTOR

New Delhi, India

June 2016 - July 2017

- Instructor for the Machine Learning course. Taught over 300+ students from a wide variety of backgrounds, and paved a way towards research oriented concepts via interactive lecture sessions.

Omnipresent Robot Tech

SOFTWARE ENGINEERING INTERN

New Delhi, India

July 2015 - Aug. 2015

- Worked with ATmega and Arduino micro-controllers to build visual interface for programming of simple robotic kits.
- Built web based interfaces for Internet-of-Things based tasks with the help of tools such as Django, Flask, Javascript.

Honors & Awards

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| 2020 | Product Innovation Award , Mercedes-Benz Research & Development India | Bengaluru, India |
| 2019 | 3rd Prize , InOut 6.0 Hackathon | Bengaluru, India |
| 2016 | Special Invitation , To The President's Estate, for Code For India 2016 | New Delhi, India |
| 2015 | Grand Prize , Code for India 2015 Hackathon | New Delhi, India |
| 2015 | Grand Prize , HackIndia 2015 Hackathon | Bangalore, India |
| 2015 | 1st Place in Track , PolicyHack by EPoD Harvard | New Delhi, India |
| 2015 | 3rd Prize , </geekfest> by IBM | New Delhi, India |
| 2015 | Special Mention , Byldathon IIITD | New Delhi, India |
| 2013 | Best Student Award , by Times of India | New Delhi, India |
| 2010 | 2nd Rank in State , National Science Talent Search Examination | New Delhi, India |

Talks and Presentations

- Internal Talk on Gaussian Processes at Mercedes-Benz R&D India (2020)
- On Introduction to Machine Learning and Deep Learning methods, at Coding Blocks (2018)
- Workshop Speaker at PyData India 2017, On Reinforcement Learning.
- Session on Reinforcement Learning at CVIT group, IIIT-Hyderabad (2017)
- Talk at CoSys Lab, IIITD on Sequence Modeling with RNN and LSTM (2017)
- Speaker at Machine Learning Seminar and Workshop at NSIT, New Delhi. Organized by Coding Blocks (2017)

Skills

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| Programming | Python, JavaScript, HTML, Lua, C++ |
| Libraries | PyTorch, Tensorflow, Keras, Numpy, OpenCV, Flask, Scikit-Learn, Django |
| Others | Docker, \LaTeX , Linux OS, Unity3D |