Shubham **Dokania**

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Education

International Institute of Information Technology Hyderabad	*Hyderabad, India*
MS by Research in Computer Science (CGPA: 8.67)	*Aug. 2020 - Mar. 2023*
Delhi Technological University	*Delhi, India*
B.Tech in Mathematics and Computing (CGPA: 7.41)	*Aug. 2013 - May 2017*
North Delhi Public School	*Delhi, India*
All India Senior Secondary Certificate Examination (87.6%)	*May 2013*

Research

Conference & Workshops

- **Shubham Dokania**, Abhay Rawat, Astitva Srivastava, Shuaib Ahmed, Haiwen Feng, Rahul Tallamraju. "3D-Aweare Generative Synthetid data for Multi-modal Facial Analysis". *Under review*
- Shivanshu Sharma, **Shubham Dokania**, Anbumani Subramanian, Chetan Arora, Vineeth N. Balasubramanian, C.V. Jawahar. "MetaBoot: Self-Supervised Set-representation Meta Learning to improve Few-Shot Learning". *Under Review*
- **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)***

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).*

Patents

- **Shubham Dokania** "Seat Pre-adjustment with height estimation through gaussian process" (***GB2605754A***)

Experience

Mercedes-Benz Research & Development India *Bengaluru, India*

Senior Researcher *May 2023 - Present*
- Multi-modal Deep Learning research towards Interior Intelligences and Autonomous Driving.
- Leading development of multiple next-generation AI features for Mercedes-Benz cars.

Research Consultant & Advisor (Ext.) *Jan. 2022 - Mar. 2023*
- Consultancy for building AI and Deep Tech prototypes across 10 departments at the organization.
- Advice for setting up AI/ML pipelines and establish team competency for diverse requirements across verticals.

Research Engineer *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.

CVIT, IIIT Hyderabad   *Hyderabad, India*

Graduate Research Student   *Nov. 2020 - Mar. 2023*

- Worked 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.

Attentive.AI   *New Delhi, India*

Research Engineer (Lead)   *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   *Palo Alto, CA (Remote)*

ML Intern   *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.

CoSys Lab, IIIT-Delhi   *New Delhi, India*

Visitng Research Intern   *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.   *New Delhi, India*

Instructor and Mentor   *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.

Honors & Awards

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

- Talk on "Data for Driving: Real and Un-Real" at CVC group, Universitat Autonoma de Barcelona, Spain. (Nov. 2022)
- Talk on "Data for Driving: Real and Un-Real" at Image Processing Lab, University of Catania, Italy. (Nov. 2022)
- Tutorial 3D Vision Summer School at CVIT, IIIT Hyderabad on Graph Convolution Networks for 3D point clouds. (June 2022)
- 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

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