

# SABYASACHI SAHOO

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## EDUCATION

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<b>Indian Institute of Science (IISc), Bangalore</b>	2014 - 2016
M. Tech - Computational Science, Dept. of Computational & Data Sciences (CDS)	CGPA: 6.3 / 8
<b>Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat</b>	2010 - 2014
B. Tech - Mechanical, Mechanical Engineering	CGPA: 7.52 / 10

## RESEARCH EXPERIENCE

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**Research Associate, Machine Learning Lab, IISc** Feb 2019 - Present

Advisor : [Chiranjib Bhattacharyya](#)

I broadly work on unsupervised learning (generative models, disentanglement, domain adaptation), explainable models, AI in healthcare (disease classification/segmentation) and robotics (LiDAR, SLAM). Some of these projects are in collaboration with [Tata Motors](#), [Ati Motors](#) and [Niramai](#).

**Deep Learning Engineer, Donut Research Labs** Jun 2018 - Feb 2019

Supervisor : [Latha Iyer](#) (Machine Learning R&D group)

I broadly worked on NLP research problems like extreme text classification and text normalization. I also worked on object and text detection on product images.

**Research Student, Middleware and Runtime Systems Lab, IISc** Jan 2015 - July 2016

Advisor : [Sathish S. Vadhiyar](#)

I worked on extracting semantic context in CNNs. For my master's thesis, I worked on reducing inter-process communication times for molecular dynamics applications on Cray XC40 supercomputer.

## PUBLICATIONS

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- **Sabyasachi Sahoo\***, Suchit Jain\*, Santosh Shet\*, Siva Teja Kakileti, Chiranjib Bhattacharyya, Geetha Manjunath. (In Progress). **“COVID-SWIFT : Simple Whatsapp based x-ray Image interpretation at your Finger Tips for potential COVID19 patients”**. BMC medical imaging (journal submission) [[request pdf](#), [link1](#), [link2](#)]
- Prashant Kumar\*, **Sabyasachi Sahoo\***, Vanshil Shah, Vineetha Kondameedi, Abhinav Jain, Akshaj Verma, Chiranjib Bhattacharyya, Vinay V. (Sep 2020). **“DSLRL : Dynamic to Static LiDAR scan Reconstruction using adversarially trained autoencoder”**. AAAI Conference on Artificial Intelligence 2021 (conference submission) [[request pdf](#), [link](#)]
- **Sabyasachi Sahoo**, Sathish S. Vadhiyar. (July 2016). **“Hierarchical Task Mapping on Dragonfly topology for scaling Molecular Dynamics”**. Masters Thesis. [[scholar](#), [pdf](#), [link](#)]

## RESEARCH WORKS

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- Abhinav Jain\*, **Sabyasachi Sahoo\***, Vineetha Kondameedi, Chiranjib Bhattacharyya. (In Progress). **“CID : Captioning for Interpretability and Disentanglement”**. [[link](#)]
- Tezuesh Varshney\*, Vineetha Kondameedi\*, **Sabyasachi Sahoo**, Chiranjib Bhattacharyya. (In Progress). **“HRHQ : High Resolution High Quality image generation and disentanglement”**. [[link](#)]
- Suchit Jain, Vineetha Kondameedi, **Sabyasachi Sahoo**, Chiranjib Bhattacharyya. (In Progress). **“RUDE : 3d Reconstruction Using DisEntanglement”**. [[link](#)]
- Akshaj Verma, **Sabyasachi Sahoo**, Santosh Shet, Chiranjib Bhattacharyya. (In Progress). **“Unsupervised Domain Adaption for cross domain Lung Segmentation on Chest Xray Images”**. [[link](#)]
- Dhiraj Shanbag, **Sabyasachi Sahoo**, Jayant Priyadarshi, Chiranjib Bhattacharyya, Vinay V. (July 2020). **“An Approach For Accurate Sceneflow Prediction For LiDAR-based Sensors.”**. Preprint. [[request pdf](#), [link](#)]
- Vineetha Kondameedi, Santosh Shet, Akshaj Verma, **Sabyasachi Sahoo**, Prashant Kumar, Chiranjib Bhattacharyya, Soma Biswas. (May 2020). **“FAIR : Frugal ADAS for Indian Roads”**. Preprint. [[request pdf](#), [link](#)]

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\* equal contribution

- **Sabyasachi Sahoo**, Vineetha Kondameedi, R. Venkatesh Babu, Partha Pratim Talukdar. (May 2015). “**Establishing Semantic relationships among object classes using Deep Networks to Image Classification**”. Preprint. [code, pdf, link]

## ENGINEERING EXPERIENCE

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**Software Engineer II, NVIDIA**

Aug 2016 - May 2018

Supervisors : [Raghavendra VK](#) and [Ravi Chandra SV](#)

I owned display and device tree modules on all self driving platforms and worked on Xavier chip bringup.

## TEACHING AND LEADERSHIP ROLES

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- **ML/Autonomous Navigation Paper Reading Group**, IISc : Conduct and deliver talks on latest machine learning and autonomous navigation research papers. [youtube]
- **Research Mentor**, [SHARE Research Labs](#) : Teaching and mentoring students on the platform for working towards a research paper for top-tier conferences.
- **Deep Learning Brainstorming Sessions**, Donut Research Labs : Conducted and taught weekly sessions on latest deep learning research and engineering pipelines.
- **Placement Coordinator**, IISc : Invited, organized and coordinated on-campus placement for numerous MNCs and startups.
- **Head Coordinator Technical Events**, SVNIT : Formulated, organized and headed various technical events for technical college festival ”Mindbend 2013”.

## HONORS AND AWARDS

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- Ranked Top 5 in class in M.Tech IISc 2016
- SO1 Customer Basket Prediction (3rd place) [code]
- NIPS 2017 Challenge ([winner](#)) [code]
- Deep Traffic for self driving car (awarded finalist)

## PERSONAL PROJECTS

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- Depth Map for Image Classification [code]
- Text Normalisation for English [code]
- Car Image Masking [code]
- Paraphrase detection on Quora questions [code]

## OTHER ACTIVITIES

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- Selected for Oxford Machine Learning ([OxML-2020](#)) Summer School
- Selected for Deep Learning Reinforcement Learning ([DLRL-2020](#)) Summer School
- Selected for Eastern European Machine Learning ([EEML-2020](#)) Summer School
- [ICML 2020](#) Conference Volunteer
- State Level Lawn Tennis and Basketball player