Kumar Shubham

Research Scholar (MS By Research - Data Science) - IIIT Bangalore
Advisor: Prof. Dinesh Babu Jayagopi, Prof. G. Srinivasaraghavan

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EXPERIENCE

Multimodal Perception Lab, IIIT-Bangalore — *Research Scholar*

AUGUST 2018 - PRESENT

- Working on a project to generate sign language gestures for speech and hearing-impaired people to facilitate efficient communication.
- Developing a cost-effective motion capture generation process using a depth camera.
- Associated with research to understand how recent development in AI can be used in social psychology based experiments.

Dataweave Software Pvt Ltd, Bangalore — *Data Engineer (Data Science Team - Semantics)*

June 2016 - July 2018

- Developed algorithms and infrastructure, for instance matching over a dataset of billions of products in the fashion category.
- Developed multi-label classifiers, to tag different attributes within the clothing category.
- Developed algorithms and infrastructure to identify counterfeit products over e-commerce platform like Walmart, Amazon e.t.c

Xerox Research Center, Bangalore — *Winter Internship*

Dec 2015 - Jan 2016

- Developed models to classify different diseases, based on time series data of labs, vitals test and prescribed medicines of patients.
- Developed a model to predict the chance of mortality based on time series data of labs and vitals tests.

SKILLS

Programming Language:
C, C++, Python, Java, JavaScript

Deep Learning Library:
Tensorflow, Keras

Search Engine Platform:
Solr, Elastic Search, Lucene

Machine Learning Library:
Scikit-learn, NLTK, Opencv

Big Data Platform:
Kafka, FluentD, Celery, Kibana, Redis

AWARDS

Speaker - Fifth Elephant, 2017
Topic: Augmenting Solr's NLP Capability with deep learning features to match Images.
(LINK)

Top 50 AI game-changer Award - NASSCOM
The counterfeit project, which I and my team worked on during my stay at Dataweave got awarded as one of the most innovative idea within the AI discipline by Nasscom.
(LINK) (LINK)

Runner-up of Xerox Research Innovation Challenge -2015.
In a machine learning, competition organized by the Xerox research center, India. Our team secured second position among 3000 participants.

(LINK)

PROJECTS

Model robustness by casual modeling — *IIIT-Bangalore*

Dec 2018 - May 2019

- Developing a procedure to include casual relationship within model training process to make deep learning model robust to adversarial attacks.
- Work is being supervised by : **Dr. G. Srinivasaraghavan.**
- Link of project : https://github.com/kyrs/NCC-experiments

Understanding and exploiting high dimensional latent space of pretrained models — *IIIT-Bangalore*

Feb 2020 - present

- Understanding and interpreting the linear topological structure of high dimensional latent space for pre-build models in text and images using reinforcement learning.
- Non linear manipulation in latent space for attribute and semantic level changes in pre trained models.
- Work is supervised by : **Dr Dinesh Babu Jayagopi and Dr. G. Srinivasaraghavan.**

Psychological analysis of conventional and non conventional job interview methods across demographics— *IIIT-Bangalore + UNIL, Switzerland*

Feb 2020 - present

- Statistical and psychological analysis of how candidates' perception and perceptual behaviour changes in different job interview settings
- Comparison of candidates from switzerland and India
- Selected for publication in **ICMI - 2020**
- Work is supervised by : **Dr Dinesh Babu Jayagopi and Dr. Marianne Schmid Mast.**

Open source contribution — *DeepDetect*

Jan 2016 - May 2016

- Integrated tensorflow platform with deepdetect architecture.
- Contribution made it easier for a normal developer without any background in tensorflow or deep learning to use existing model and platform with ease.
- Work was supervised by **Dr. Emmanuel Benazera.**
- Link of project : https://github.com/jolibrain/deepdetect/pull/103

Languages

English
Hindi

Relevant Courses

Probabilistic Graphical Model

Maths for Machine Learning

Advance Visual Recognition

Neural Network and Reinforcement Learning

Online Courses

Reinforcement Learning - David Silver (CODE)

Deep Bayes

PUBLICATION

- An efficient regularized K-nearest neighbor based weighted twin support vector regression. — ***Knowledge based System*** (LINK) | Citation -25

- A regularization on lagrangian twin support vector machine. — ***International Journal of Machine Learning and cybernetics*** (LINK) | Citation -10

- An efficient implicit regularized lagrangian twin support vector regression. —***Applied Intelligence*** (LINK) | Citation - 12

EDUCATION

IIIT, Bangalore — *MS By Research, Data Science*
Aug 2018 - present | CGPA - 3.74/4.0

LNMIIT, Jaipur — *B-Tech, Electronics and Communication*
July 2012 - April 2016 | CGPA - 7.96|10