# Shubham Krishna

Contact Information

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**EDUCATION** 

# University of Tübingen, Tübingen, Germany

Oct 2019 - Ongoing

Masters of Science, Machine Learning

Selected Courses: Deep Learning for Computer Vision and NLP, Autonomous Driving, Data Mining, Probabilistic Machine Learning, Statistical Machine Learning, Convex Optimization

#### Indian Institute of Technology, Dhanbad, India

July 2013 - May 2018

Integrated Masters of Technology, Mathematics & Computing

GPA: 9.2/10.0, First Class with Distinction

Selected Courses: Data Structures & Algorithms, Object Oriented Programming, Databases, Probability, Inferential & Descriptive Statistics, Linear Algebra, Multivariate Calculus

Work EXPERIENCE

### Research Assistant, Robust & Efficient Deep Learning

April 2020 - present

Advisors: Steffen Schneider, Prof. Dr. Matthias Bethge, Bethge Lab, Tubingen, Germany

Working on Out of Distribution Generalisation (Recent Paper Accepted at NeurIPS Workshop) and Pruning in Deep Neural Networks. Technologies Used: PyTorch, PyTorch Lightning, Numpy, Pandas, Seaborn

# Senior Software Engineer, Information Retrieval & NLP

July 2018 - Sep. 2019

Samsung Research, Bangalore, India

Integrated Natty Date Parser (Java Library) to the query expansion algorithm to serve time domain based queries. Implemented the Gallery hierarchical search using taxonomical entities for improving recall of related search feature. Technologies Used: Tensorflow, NLTK, Gensim, Java, Android Studio

#### Research Assistant, Unsupervised Machine Learning

Jan. 2018 - Apr. 2018

Advisors: Prof. Dr. Romain Billot, Prof. Dr. Nicolas Jullien, IMT Atlantique, Brest, France

Performed a large scale study on the contributing pattern of Wikipedia's Online Contributors using different clustering algorithms and Principle Component Analysis. Technologies Used: R, ggplot2, dplyr

## Software Engineering Intern, Natural Language Processing

May 2018 - July 2018

Samsung Research, Bangalore, India

Developed and commercialized a real-time LSTM based text classification model to handle expletive sentences for the Voice Assistant Bixby. Improved the accuracy by 5%. Technologies Used: Tensorflow, Gensim

Publications

Steffen Schneider\*, Shubham Krishna\*, Luisa Eck, Mackenzie Mathis and Matthias Bethge. On the Relationship between Adaptive and Invariant Representation Learning. Accepted at Pre-registration NeurIPS Workshop, 2020

Shubham Krishna\*, Ahsaas Bajaj\*, Hemant Tiwari and Vanraj Vala. Learning Mobile App Embeddings using Multi-task Neural Network. International Conference on Applications of Natural Language to Information Systems, 2019

Shubham Krishna, Romain Billot and Nicolas Jullien. A Clustering approach to infer Wikipedia contributor's profile. International Symposium on Open Collaboration, 2018

## SELECTED PROJECTS Self Driving Car using Behaviour Cloning

Oct. 2019 - Nov. 2019

Developed a smart driving agent that can clone an expert's driving behaviour. Uses CNN to predict the steering angle and acceleration from visual inputs. Technologies Used: PyTorch, OpenAI Gym

### Image Denoising Using Neural Network

May 2020 - May 2020

Used Convolutional Autoencoder for learning a robust latent representation in order to estimate the original image by suppressing noise from a noisy version of the image. Technologies Used: PyTorch

TECHNICAL SKILLS

**Programming:** Python, C, C++, R, Shellscript

Software: PyTorch, SciPy/NumPy/Pandas, Git, Tensorflow, Keras