

Tushar Dhyani

NLP • DATA SCIENCE • DEEP LEARNING • COMPUTER SCIENCE

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Professional Experience

Sony

WERKSTUDENT - AI, SOUND AND SPEECH GROUP

Stuttgart, BW, Deutschland

Nov. 2021 - Present (14 Months)

- Created enhanced audio dataset pipelines for speech separation framework.
- Adapted audio augmentations package for the framework.

Hessian.ai

WERKSTUDENT

Darmstadt, Hesse, Deutschland

August. 2021 - Oct 2021 (3 Months)

- Developed backend in Python for European Federal Election 2021 with *Elastic Search* and *Docker*.
- Designed topic modelling and argument mining pipelines for daily news insights.

Genietalk

JUNIOR DATA SCIENTIST

Mumbai, Maharashtra, India

March. 2019 - March. 2021 (2 Years)

- Our team created a Conversational SaaS platform, which helped in raising \$750,000 in series A funding.
- Worked on MultiLingual conversational agents, code-mixing, Generative conversational agents and Speech to Text.

DATA SCIENCE INTERN

July. 2018 - Oct. 2018 (3 months)

- Research on *Microsoft R-net* & *BiDirectional Attention Flow* for machine comprehension.
- Built a language identification tool for identifying English and English-typed language used in text based conversations.

Education

Universität Stuttgart

MASTER OF SCIENCE IN COMPUTATIONAL LINGUISTICS

Stuttgart, BW, Deutschland

Apr. 2021 - Ongoing

- **Coursework:** *Core Linguistics* - Advance Machine Learning, Emotion Analysis, Parsing, Machine Translation, Machine Learning, Ethics in NLP.

Madhav Institute of Technology & Science

B.E. IN INFORMATION TECHNOLOGY (7.6/10 WITH Hons.)

Gwalior, Madhya Pradesh, India

June. 2014 - June. 2018

Projects

Diffusion Denoising of speech

CREATED DENOISING FRAMEWORK USING DIFFUSION MODELS FOR AUDIO.

Stuttgart, Germany

July 2022 - Present

- Working on noise removal framework from speech signals using Diffusion based generative models.

Emotion Stimuli

EMOTION ROLE LABELING MADE EASY WITH HMM AND TRANSFORMERS.

Stuttgart, Germany

July 2021

- Detailed project on capturing fine tuned emotions from a piece of text. Under the guidance of Prof. Roman Klinger. [Link](#)

Bengali Grapheme detection

ALPHA-SYLLABARY LANGUAGE GRAPHEME DETECTION

Mumbai, Maharashtra, India

Jan 2020-Mar 2020

- Handwritten Bengali grapheme detection and separation of constituents of images into: grapheme root, vowel diacritics, and consonant diacritics.

Skills

Frameworks:

PyTorch | Tensorflow | HuggingFace | Scikit-learn | Pandas | Numpy | Matplotlib | NLTK | Spacy

Tools:

Docker | Kubernetes | Elasticsearch | MySQL | MongoDB | DVC | Git | GitHub-Actions | CI | Flask

Publications

Action based QA for Conversational Agents

FRAMEWORK MODIFICATION FOR CONVERSATIONAL DIALOGUE FLOW

- You can read the paper here: https://www.researchgate.net/publication/337682017_ACTION_BASED_QA_FOR_CONVERSATIONAL_AGENTS

Handling Contextualized English For Conversational Agents

ICMISC 2020 conference

CREATING LANGUAGE HANDLING FOR CONVERSATIONAL AGENTS

Mar. 2020

- You can read the paper here: https://www.researchgate.net/publication/337012846_HANDLING_CONTEXTUALIZED_ENGLISH_TYPED_REGIONAL_LANGUAGES_FOR_CONVERSATIONAL_AGENTS_TECHNICAL_REPORT

Forecasting Tuberculosis Morbidity Rate

ICICSS'2018 conference

T.B MORBIDITY ANALYSIS USING A DEEP LEARNING ALGORITHMS

Sept. 2018

- Presented a paper on Tuberculosis morbidity with time analysis paper in International Conference on Intelligent Computing and Sustainable System conference held under IEEE chapter.
- You can read the paper here: https://www.researchgate.net/publication/327776140_Using_Deep_Learning_for_Forecasting_Tuberculosis_Morbidity_Rate

Achievements

Mar-2020 **Kaggle-Bengali.ai Grapheme detection**, Secured 55th rank (top 2%) and Silver medal on Kaggle

India

Oct-2019 **Kaggle Expert**, Expert in 2 categories - Discussion and Kernel.

India

Mar-2017 **Google CodeJAM-Qualification round, Facebook-Hackercup Qualifier**,

Gwalior

Dec-2015 **ACM ICPC-Kharagpur Regionals**, Member of team *CPP Killers* which ranked 42 (out of 76).

IIT-Kharagpur