

# Tushar Dhyani

DEEP LEARNING • DATA SCIENCE

☎ (+91) 7000635437 | ✉ dhyanitushar@gmail.com | 🏠 tushardhyani.com | 📱 Thanatoz-1 | 📷 thanatoz | 🌐 tushar-dhyani

## Work Experience

### Genietalk

Indore, Madhya Pradesh, India

JUNIOR DATA SCIENTIST

March. 2019 - Present

- In a team of 3 Data scientists, created a travel domain specific conversational agent called *OGenie*
- Created & responsible for continuous improvement for *Entity Extraction & Intent Extraction* data-pipeline into the conversational agent.
- Integrated native and English typed dialect support to the conversational agent.
- Serialized and improved the models and data-loaders for faster loading unloading time, bringing the overall model loading time from 13 seconds average to 2 seconds average.

### BigData Informatics

Indore, Madhya Pradesh, India

ASSOCIATE DEEP LEARNING ENGINEER

Oct. 2018 - March. 2019

- Implemented document similarity and text similarity to find and segregate documents.
- Built a machine comprehension mechanism using *BiDirectional Attention Flow* algorithm rendering answering capabilities to the company's helping bot from bunch of documents.
- Ported existing sentiment analysis tools from Machine learning based algorithms to Deep learning algorithm (Sequence to Sequence with embeddings).

### Genietalk

Indore, Madhya Pradesh, India

DATA SCIENCE INTERN

July. 2018 - Oct. 2018

- 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.
- Built a smart scrapper for scrapping travel blogs and travel documents from internet.

## Certifications

### National Research University Higher School of Economics,

Moscow

ADVANCED DEEP LEARNING

Jun. 2018 - Sept. 2019

- **Coursework:** Linear and Logistic regression, Gradient descent, Stochastic optimizations.
- **Projects:** Closest Image finding, Image captioning system and GANs for face generation 32\*32.

### Imperial College, London

MATHEMATICS FOR MACHINE LEARNING

Oct. 2018 - Jan. 2019

- **Coursework:** Fundamentals of linear Algebra, Multivariate Calculus, Principal Component Analysis.
- **Projects:** Rebuilt the first Google Pagerank algorithm, implemented SGD from scratch, and designed PCA from scratch.

### Deeplearning.ai & Coursera

DEEP LEARNING SPECIALIZATION

Jan. 2018 - Oct. 2018

- **Coursework:** Neural Networks & Deep Learning, Project Structuring, Convolutional Neural Networks, Sequence Models.
- **Projects:** Built simple neural network and CNN from scratch, implemented one-shot learning for face verification.

## Education

### Madhav Institute of Technology & Science

Gwalior, Madhya Pradesh, India

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

June. 2014 - June. 2018

- **Coursework:** Data Structures & Algorithms, Operating systems, Bash programming, Software Engineering, Object oriented programming, Statistics & Discrete mathematics, Information Theory, Database Management System, Data warehousing & Data Mining, Artificial Intelligence & Expert systems, Neural Networks & fuzzy logic, etc.

## Achievement

Dec-2015 **ACM ICPC-Kharagpur Regionals**, Member of team *CPP Killers* which ranked 42 (out of 76).  
Mar-2017 **Google CodeJAM-Qualification round**, ranked 14824 (Out of 25288).  
Mar-2017 **Facebook-Hackercup**, ranked 7842 (Out of 12804).

*IIT-Kharagpur*  
*Gwalior*  
*Gwalior*

## Projects

### O Genie

*Indore, M.P, India*

CONVERSATIONAL AGENT FOR MANAGING YOUR TRAVEL

*Ongoing*

- Working on creating a travel domain specific from end to end.
- Created state of the art end to end pipeline for extracting travel entities from user queries with a F1 score of 93.4% and Intent recognition for based on *Bidirectional Encoder Representations from Transformers* for travel intent identification for travel.

### Query locale

*Indore, M.P, India*

LANGUAGE LOCALIZATION AND HANDLING CONTEXTUAL ENGLISH TYPED LANGUAGE

*Aug 2019*

FOR CONVERSATIONAL AGENTS

- Created embedding using *Word2vec* for such possible cases.
- Implemented word masking on input queries for improvements.

### Siam Ease

*Indore, M.P, India*

SIGNATURE RECOGNITION

*Nov 2018*

- Applied one-shot learning to create signature recognition to identify real and fraud signature.

### ScrapoPedia

*Gwalior, M.P, India*

CREATE A NUTRITIONAL CHART OF YOUR FOOD.

*June 2017*

- Applied transfer learning using VGG-16 model over a self created small dataset of vegetables to achieve higher accuracy.
- Webscrapped the vegetable nutritional information from Healthline.

### Raksha

*Gwalior, M.P, India*

CONNECTING THE HELPER WITH THE HELPEE.

*Mar 2017*

- Designed the frontend of the application.

## Publications

### Handling Contextualized English For Conversational Agents

CREATING LANGUAGE HANDLING FOR CONVERSATIONAL AGENTS

- You can read the paper here: [https://www.researchgate.net/publication/327776140\\_Using\\_Deep\\_Learning\\_for\\_Forecasting\\_Tuberculosis\\_Morbidity\\_Rate](https://www.researchgate.net/publication/327776140_Using_Deep_Learning_for_Forecasting_Tuberculosis_Morbidity_Rate)

### Forecasting Tuberculosis Morbidity Rate

*ICICSS'2018 conference*

T.B MORBIDITY ANALYSIS USING A DEEP LEARNING ALGORITHM FOR BETTER

*Sept. 2018*

RESULTS

- 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](https://www.researchgate.net/publication/327776140_Using_Deep_Learning_for_Forecasting_Tuberculosis_Morbidity_Rate)

## Extracurricular

2019 **Stackoverflow**, #22 Top contributor at DataScience channel of Stack overflow so far in 2019.  
2019 **Unschool.in**, Instructor for Artificial Intelligence course  
2017-18 **MITS ACM Students Chapter**, Student President & Core member  
2018 **MITS Coding Club**, Student Chair  
2016 **ISTE**, Graphic Designer

*Indore*  
*Indore*  
*Gwalior*  
*Gwalior*  
*Gwalior*