

Tushar Kanakagiri

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EDUCATION

CARNEGIE MELLON UNIVERSITY

Language Technologies Institute,
School of Computer Science
Masters | Dec 2020
Intelligent Information Systems
GPA: 4.04 / 4

R V COLLEGE OF ENGINEERING

Bachelors | May 2017
Computer Science & Engineering
GPA: 9.53 / 10 | Rank: 7 / 220
Best Outgoing Student

COURSES

Machine Learning • ML-Text Mining
Algorithms for NLP • Deep Learning
Neural Networks for NLP • Game Theory
Computational Ethics for NLP
Probability • Statistics

SKILLS

Languages

Python • C# • C++ • NodeJS • SQL
Tools

PyTorch • Keras • Scikit-Learn
NLTK • Azure • .NET • PowerBI

POSITIONS

Rep, CMU Graduate Student Assembly
President, RVCE Debating Society
Convener, RVCE International Debate
Tournament
Campus Journalist, RVCE

HONORS & AWARDS

2019 | **National**
J.N Tata Scholarship - \$20,000
2018 | **1st/100+ Teams**
Citrix R&D Global TechFair
2017 | **1st/60+**
Practo Hackathon
2017 | **1st/100+**
Best Capstone Project
2017 | **Champion**
National Debating Championship
2015 | **Top 304/15000+**
Indian Academy of Sciences - Research Fellow
2012 | **Winner**
NASA AMES Space Settlement Contest

EXPERIENCE

MICROSOFT | Redmond, United States

Data and Applied Scientist Intern | May 2020 - Present

- Generated Self Help solutions for Azure Support from email conversations and product documentation using NLP
- Trained & Used In-Domain FastText embeddings and Sentence-BERT to identify semantic similarity between customer problem summary and documentation.
- Using Extractive Summarization to generate Title & Description for the solution
- Hackathon : Implemented a Transformer Model for Speech Enhancement to build an Auto-Mute/Auto-UnMute feature for Microsoft Teams.

CITRIX R&D | Bangalore, India

Software Engineer 2 | Oct 2018 - July 2019

Software Engineer 1 | July 2017 - Sept 2018

- Researched and built models for Time Series Prediction of application launch using ARIMA and Decision Tree. Deployed as a web service on Azure.
- Prototyped a conversational chatbot for proactive customer issue resolution.
- Architected and developed *ITSM Adapter Service* - A cloud microservice which automates product workflows. Reduced time taken from 4+ hours to minutes.
- Oversaw engineering effort on Citrix's API Gateway and Developer Platform.

GOLDMAN SACHS | Technology Analyst Intern | May - July 2016

- Designed an efficient and scalable program trading algorithm for closed price stock trading. Created a real-time analytics dashboard for traders.

INDIAN ACADEMY OF SCIENCES | Research Fellow | June - Aug 2015

- Identified exponential increase in *Fake Reviews* over time on the Yelp platform using statistical and linguistic techniques.

PROJECTS

CONTEXTUALIZED SYNTHETIC OPINION GENERATION

Advisor - Prof. Alan Black | (Submitted to EMNLP 2020)

- System comprised of a novel masked opinion retriever (INDRI), opinion classifier (CNNs), relevance re-ranker (BERT), and an abstractive summarizer (BART).
- Outperforms state-of-the-art models based on human evaluation.

RUMOUR VERACITY DETECTION | ACADEMIC

- Used Conversational BERT to identify stance & veracity of a post on Social Media.
- Incorporated post level features, stance transition priors and an auxiliary embedding loss to improve on state-of-art by 3 F₁.

STATISTICAL MACHINE TRANSLATION | ACADEMIC

- Developed a memory efficient Kneser-Ney language model to score translations.
- Implemented an intersected HMM-Based Word Alignment model improving BLEU score from 11.9 to 16.9 over a word frequency based heuristic model.

AUTOMATIC SCRIPT GENERATION | CAPSTONE PROJECT

Academic, Funded

- Research for an ML model which converts test cases in natural language to code.
- Leveraged TF-IDF & Vector Space models to identify similarities in codebase.
- Developed models using Microsoft's LUIS.AI to expose as a web service.

COMPUTATIONAL POLITICAL AD ANALYSIS | ACADEMIC

- Used Topic Modelling & Sentiment Analysis to identify micro-targeting and other political strategies employed by candidates for 2020 US Presidential Elections.