TUSHAR MAKKAR

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Education

Bachelor of Technology, Computer Engineering May 2015
National Institute of Technology, Surathkal, Karnataka, India
CGPA: **9.36/10.0**, Department Rank: **5/107**

All India Senior Secondary School Examination (C.B.S.E) July 2011
P.K.R. Jain Sr. Sec. Public School, Ambala, Haryana, India
Percentage Secured: **95.6%**, District Rank: **1**

All India Secondary School Examination (C.B.S.E) July 2009
P.K.R. Jain Sr. Sec. Public School, Ambala, Haryana, India
Percentage Secured: **98%**, District Rank: **1**

Experience

Senior Data Scientist, Eightfold.ai December 2019-Present
• *ParaBERT*: Made embedding of resumes and job description using *BERT*. Made BERT model faster (using improved tokenization and distillation) and extended it for larger resumes. Improved accuracy of matching engine by 5 AUC points. Patent pending for the same.
• *NLP Engine Toolkit*: Developed Spell correction Engine, Entity deduping engine and Abbreviation expander engine for improving the quality of dataset.
• *Resume Parsing Engine*: Working on building deep learning based Resume Parsing Engine.

Data Scientist, Rivigo March 2017-December 2019
• *Pricing Engine*: Finds best route price for transporters and fleet owners to ensure better return load efficiencies and more business for fleet owners using machine learning models. Launched National Freight Index, a barometer of the road freight spot market.
• *Demand Recommendation and Rating Engine*: Recommended users on the basis of their business potential and suggest serviceable load requests by figuring out their ratings using 300+ data points.
• *Relay Simulation Platform and Network Optimization*: Built Relay as a service (RAAS) Simulation platform and various machine learning algorithms like: pilot resource planning, wait for load prediction, network equations etc. to run network optimally.

Software Development Engineer - 2, CodeNation June 2015-March 2017
• *Library Suggestion Engine*: Underwent through Trilogy University (TU'15). Developed tool which makes codebase more secure, simpler, reusable and easy to comprehend by using an external library.

Protocol Designer and ML Developer (Founding Engineer), Trestor Jan 2014-June 2015
• *Trest*: Developed and designed a new P2P cryptocurrency. Implemented network layer protocols, consensus algorithm and biometric authentication system.

Software Engineering Intern/Researcher, Google May 2014-July 2014
• *Word Sense Disambiguation*: Worked in Ray Kurzweil's *Machine Intelligence Group*. Designed the algorithm for finding context of a word using Cooccurence based classifier and WordNet.

Software Engineering Intern/Researcher, Algorithmic Insight May 2013-July 2013
• *Least Cost Fulfillment Algorithm*: Implementated and designed the algorithm for systemizing the order fulfillment process of The Supplies Group using Genetic algorithm based approach.

Projects

Voluptuous April 2016
Voluptuous, despite the name, is an open-source Python data validation library. It is primarily intended for validating data coming into Python as JSON, YAML, etc.

Awards

Patents and Publications
• Filed 10+ patents for work in different organizations related to the field of NLP, Machine Learning and Artificial Intelligence.
• Published 2 papers in IEEE and Springer conferences related to the field of NLP and Artificial Intelligence in Network Security.

Competitive Programming
- Ranked **3rd** among Indian teams in IEEEXtreeme-7.0.
- **All World Rank 15** in Instruo-2013 held at Codechef.
- Solved 300+ problems in Spoj. Ranked **Top 0.5%** among 100k+ users. Handle : tusharmakkar08.
- Qualified for both ACM ICPC Amritapuri regionals and ACM ICPC Kharagpur regionals.

Haryana Pratibha Samman Award
- Recieved Haryana Pratibha Samman Award from Chief Minister of Haryana for securing **AIR - 3** in High School Examination.

Performance in Olympiads/Hackathons/Competitions
- Winner of Nasscom AI Game Changer Award 2018 for work done at Rivigo.
- Winner of Hackathon Code.Fun.Do organised by Microsoft.
- Winner of Rivigo's Hackathon. Built AI based conversational agent.
- Winner of Rivigo's Say/Do Award for building National Freight Index.
- Winner of Eightfold.ai's Hackathon for building SimBERT.
- **Top - 10** worldwide in IBM Smarter planet challenge.
- **AIR - 1** in Holy Faith's National Talent Search Exam.
- **AIR - 21** in National Science Olympiad.

Others
- *Convenor of Web Enthusiasts Club*, an elite group of Computer Enthusiasts at NITK.
- *Microsoft Student Partner and Joint Head of NITK Codechef Campus Chapter.*
- *Executive Member NITK IEEE Student Branch and Amateur Astronomers Club (previously SGC).*
- *Joint Convenor of Computer Committee in Engineer 2014*, the technical fest of NITK.
- *Teaching Volunteer* at Teach For India, Make a Difference and Guru Nanak Sewa Sansthan.