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: **4/107**

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 Software Engineer (Data Science), Rivigo March 2017-Present
• *Pricing Engine*: It enables Rivigo to present best route price for transporters and supply side to ensure better return load efficiencies and more business for fleet owners/brokers using machine learning models. *Patent* pending for the same.
• *Demand Recommendation Engine*: It recommends users on the basis of their business potential and suggests serviceable load requests to those users.
• *Rating Engine*: It provides rating for users using 300+ data points, which are extracted on the basis of app usage, phone usage and platform business performance data.

Software Development Engineer - 2, CodeNation June 2015-March 2017
• *Library Suggestion Engine*: It analyzes code and yields opportunities where a developer could have used an external library to make codebase more secure, simpler and easy to comprehend.
• Underwent through Trilogy University (TU'15)

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

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

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 a Python data validation library. It is primarily intended for validating data coming into Python as JSON, YAML, etc.
• Part of 2-member core Voluptuous open-source development team. It has 1300+ github stars.

Patents

Library suggestion engine USPTO
Library suggestion engine analyses code and yield library substitution opportunities using Machine Learning and NLP techniques.

Publications

Context aware searching of components in large repositories IEEE
Proposed a new approach to locate software components from large component online open source repositories faster encompassing the techniques like context-aware browsing, Hidden Markov Models based ranking and semantic tagging.

Dirichlet Based Collaborative Intrusion Detection Systems Springer
Proposed a new approach for making Intrusion Detection System more robust using a unique mix of Dirichlet Distribution based collaborative trust model and Nash-Equilibrium.

Awards	**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. 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/Competition
	• Winner of Hackathon Code.Fun.Do organised by Microsoft.
	• **Top-10** worldwide in IBM Smarter planet challenge.
	• **AIR - 1** in Holy Faith's National Talent Search Exam.
	• **AIR - 21** in National Science Olympiad
	IIT JEE and AIEEE
	• Amongst the Top-1% in IIT JEE 2011 and Top-0.3% in AIEEE 2011
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.*