

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	Data Scientist, Rivigo March 2017-Present <ul style="list-style-type: none">• <i>Pricing Engine</i>: 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.• <i>Demand Recommendation Engine</i>: Recommended users on the basis of their business potential and suggests serviceable load requests to those users.• <i>Rating Engine</i>: Provided rating 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 <ul style="list-style-type: none">• <i>Library Suggestion Engine</i>: Underwent through Trilogy University (TU'15). Developed tool which yields opportunities where a developer could have used an external library to make codebase more secure, simpler, reusable and easy to comprehend.
	Protocol Designer and ML Developer (Founding Engineer), Trestor Jan 2014-June 2015 <ul style="list-style-type: none">• <i>Trest</i>: 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 <ul style="list-style-type: none">• <i>Word Sense Disambiguation</i>: Worked in Ray Kurzweil's Machine Intelligence Group. Designed the algorithm for finding context of a word using Cooccurrence based classifier and WordNet.
	Software Engineering Intern/Researcher, Algorithmic Insight May 2013-July 2013 <ul style="list-style-type: none">• <i>Least Cost Fulfillment Algorithm</i>: Implemented 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.
Patents	Library suggestion engine USPTO Library suggestion engine yields library substitution opportunities using Machine Learning and NLP.
	Blackbox matching engine USPTO Blackbox matching engine extracts code snippets, makes them compilable (using AST parsing and templating) and compares the results with the test cases extracted from library functions.
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 Dirichlet Distribution based collaborative trust model and Nash-Equilibrium.

Awards

Competitive Programming

- Ranked **3rd** among Indian teams in [IEEE Xtreme-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

- Received 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](#).
- **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

- Filed 8 [patents](#) for work at Codenation (2 granted) and 1 patent for work at Rivigo.

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](#).*