

# TUSHAR MAKKAR

(+91) 9008751866 • tusharmakkar08@gmail.com

Education	<b>Bachelor of Technology, Computer Engineering</b> May 2015 <a href="#">National Institute of Technology, Surathkal, Karnataka, India</a> CGPA: <b>9.36/10.0</b> , Department Rank: <b>5/107</b>
	<b>All India Senior Secondary School Examination (C.B.S.E)</b> July 2011 <a href="#">P.K.R. Jain Sr. Sec. Public School, Ambala, Haryana, India</a> Percentage Secured: <b>95.6%</b> , District Rank: <b>1</b>
	<b>All India Secondary School Examination (C.B.S.E)</b> July 2009 <a href="#">P.K.R. Jain Sr. Sec. Public School, Ambala, Haryana, India</a> Percentage Secured: <b>98%</b> , District Rank: <b>1</b>
Experience	<b>Data Scientist, Rivigo</b> March 2017-Present <ul style="list-style-type: none"><li>• <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.</li><li>• <i>Demand Recommendation Engine</i>: Recommended users on the basis of their business potential and suggests serviceable load requests to those users.</li><li>• <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.</li></ul>
	<b>Software Development Engineer - 2, CodeNation</b> June 2015-March 2017 <ul style="list-style-type: none"><li>• <i>Library Suggestion Engine</i>: Underwent through <a href="#">Trilogy University (TU'15)</a>. 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.</li></ul>
	<b>Protocol Designer and ML Developer (Founding Engineer), Trestor</b> Jan 2014-June 2015 <ul style="list-style-type: none"><li>• <i>Trest</i>: Developed and designed a new P2P cryptocurrency. Implemented network layer protocols, consensus algorithm and biometric authentication system.</li></ul>
	<b>Software Engineering Intern/Researcher, Google</b> May 2014-July 2014 <ul style="list-style-type: none"><li>• <i>Word Sense Disambiguation</i>: Worked in <a href="#">Ray Kurzweil's Machine Intelligence Group</a>. Designed the algorithm for finding context of a word using Cooccurrence based classifier and WordNet.</li></ul>
	<b>Software Engineering Intern/Researcher, Algorithmic Insight</b> May 2013-July 2013 <ul style="list-style-type: none"><li>• <i>Least Cost Fulfillment Algorithm</i>: Implemented and designed the algorithm for systemizing the order fulfillment process of <a href="#">The Supplies Group</a> using Genetic algorithm based approach.</li></ul>
Projects	<b>Voluptuous</b> 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	<b>Library suggestion engine</b> <a href="#">USPTO</a> Library suggestion engine yields library substitution opportunities using Machine Learning and NLP.
	<b>Blackbox matching engine</b> <a href="#">USPTO</a> 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	<b>Context aware searching of components in large repositories</b> <a href="#">IEEE</a> 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.
	<b>Dirichlet Based Collaborative Intrusion Detection Systems</b> <a href="#">Springer</a> 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

- 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](#).
- **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](#).*