

TUSHAR MAKKAR

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EDUCATION	Bachelor of Technology, Computer Engineering National Institute of Technology, Surathkal, Karnataka, India CGPA : 9.36/10.0 , Department Rank: 4/107	May 2015
	All India Senior Secondary School Examination (C.B.S.E) P.K.R. Jain Sr. Sec. Public School, Ambala, Haryana, India Percentage Secured : 95.6% , District Rank: 1	July 2011
	All India Secondary School Examination (C.B.S.E) P.K.R. Jain Sr. Sec. Public School, Ambala, Haryana, India Percentage Secured : 98% , District Rank: 1	July 2009
TECHNICAL SKILLS	Languages: Python, C++, Java Databases : SQL, NoSQL Operating System : OS X, Linux (Debian/RPM), Windows	
EXPERIENCE	SDE - II, CodeNation • Underwent through Trilogy University (TU'15) • Proposed and Developed Library Suggestion Engine. Steered the project smoothly from requirement gathering stage till production. • Used Machine Learning, NLP, AI, static and dynamic code analysis techniques. <i>Patent</i> pending for the same.	June 2015- Present
	Software Engineering Intern/Researcher, Google • Worked on Word Sense Disambiguation problem in Ray Kurzweil's Machine Intelligence Group under the guidance of Shailesh Kumar . • Designed the algorithm for finding context of a word using Cooccurrence data and WordNet . • Implemented the framework for disambiguating the words and quantifying how good the <i>WordNet</i> and <i>Cooccurrence</i> based classifier performs on a labelled <i>SemCor</i> corpus .	May 2014- July 2014
	Software Engineering Intern/Researcher, Algorithmic Insight • Worked on implementation, design and optimization of <i>Least Cost Fulfillment Algorithm</i> which aimed at systemizing the order fulfillment process of The Supplies Group , under the guidance of Sarabjot Singh . • Generated feed files which automated the process of uploading data on <i>Amazon</i> and filling details of customers on Email Marketing solutions .	May 2013- July 2013
	Network Developer and Protocol Designer, Trestor Foundation • Worked on designing and establishing new true P2P cryptocurrency which will give better security, privacy, anonymity and transparency. • Worked on developing network layer protocols, consensus algorithm, biometric authentication system and web service API .	Jan 2014-Oct 2015
Publications	Software development using 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. Extended Game Theoretic Dirichlet Based Collaborative Intrusion Detection Systems Springer Proposed a new approach for making Intrusion Detection System more robust/secure using a unique mix of Dirichlet Distribution based collaborative trust model and Nash-Equilibrium based game theoretical model.	

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 development team. It has 600+ github stars and 35+ contributors.

Imagyy

Nov 2015

- Tool for scraping public profile photos from various social networks like Facebook, Instagram, Quora, LinkedIn etc.
- Top-50 in [Hacker News](#) for more than 48 hours.

Subset Selection Using Pairwise Symbiotic Evolution

June 2015

- Proposed a novel way to optimize the subset selection process by developing a generalized wrapper for Feature Selection Algorithms and giving more relevant results in the copacetic time period.
- Developed it in collaboration with [Google Research](#).

Twitter Comics

Feb 2015

- Developed a windows phone app "Twitter Comics" which converts Twitter Feeds to comics.
- It uses *sentiment analysis* on tweets to make relevant comics.

Piiota

July 2014

- An Automated Answer Telling Machine
- It has features like Text to speech Integration using festival, Wikipedia Data Extraction and Storing Data through serializing in Dictionary for fast lookup time

AlphaPy

Dec 2013

- A python PyGTK based text editor
- It has features like text to speech Integration, compiler integration ,Online storage in Google Drive and Auto exporting to HTML and RTF format.

AWARDS

Competitive Programming

- Ranked **3rd** among Indian teams in [IEEEExtreeme-7.0](#)
- Qualified for both [ACM ICPC Amritapuri regionals](#) and [ACM ICPC Kharagpur regionals](#). My team ranked **24th** in ACM ICPC onsite regionals .
- **All World Rank 15** in [Instruo-2013](#) held at Codechef
- Solved 275+ problems in Spoj . Handle : [tusharmakkar08](#)

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

- Winner of Hackathon [Code.Fun.Do](#) organised by [Microsoft](#).
- **AIR - 1** in Holy Faith's National Talent Search Exam .
- **AIR - 21** in [National Science Olympiad](#)
- Secured 93 percentile score in both International Maths Olympiad and National Cyber Olympiad
- Qualified NTSE Level -1

IIT JEE and AIEEE

- Amongst the Top-0.01% (AIR - 6094) in IIT JEE 2011 and Top-0.003% (AIR - 3076) in AIEEE 2011

Merit Certificate

- Received Merit Certificate from Director for being in Top-0.1% in Class
- Mentioned in [Top New Puzzling Stack Exchange users](#)

EXTRA-CURRICULAR ACTIVITIES

- *Microsoft Student Partner*
- *Convenor of Web Enthusiasts Club*, an elite group of Computer Enthusiasts at NITK.
- *Joint Head of NITK Codechef Campus Chapter*
- *Joint Convenor of Computer Committee in Engineer 2014* the technical fest of NITK.
- *Executive Member NITK IEEE Student Branch*, Bangalore Section.
- *Executive Member Amateur Astronomers Club (previously SGC) NITK*