## TUSHAR MAKKAR

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#### EDUCATION Bachelor of Technology, Computer Engineering

July 2011-May 2015(expected)

Senior Year, National Institute of Technology, Karnataka, India

CGPA: 9.33/10.0, 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 City , Ambala

Percentage Secured: 95.6%

## All India Secondary School Examination (C.B.S.E)

July 2009

P.K.R. Jain Sr. Sec. Public School, Ambala City, Ambala

Percentage Secured: 98%

## INTERESTS Algorithms, Data Structures, Data Science, Applied Mathematics and Statistics

# TECHNICAL SKILLS

Languages: C++, C, Python, Shell Scripting (Basic), JavaScript (Basic), Scala (Basic)

Databases: MySQL, Redis (Basic)

Operating System: Linux (Debian/RPM), Windows

## EXPERIENCE Software Engineering Intern/Researcher, Google

May 2014- July 2014

- Worked on Word Sense Disambiguation problem in Ray Kurzweil's Machine Intelligence Group under the guidance of Shailesh Kumar. It is an open problem of natural language processing and ontology, which governs the process of identifying which sense of a word (i.e. meaning) is used in a sentence, when the word has multiple meanings.
- ullet Designed the algorithm for finding context of a word using Cooccurence data and WordNet .
- ullet Implemented the framework for disambiguating the words and quantifying how good the WordNet and Cooccurence based classifier performs on a labelled SemCor corpus .

#### Software Engineering Intern/Researcher, Algorithmic Insight

May 2013- July 2013

- Worked on implementation , design and optimization of *Least Cost Fulfillment Algorithm* which aimed at systemizing the order fulfillment process of The Supplies Group.
- ullet Generated feed files which automated the process of uploading data on Amazon and filling details of customers on Email Marketing solutions .

#### Network Developer and Protocol Designer, Trestor Foundation

Jan 2014-present

- Working on designing and establishing new true P2P cryptocurrency which will give better security, privacy, anonymity and transparency.
- Working on developing network layer protocols, consensus algorithm and web service API.

#### PROJECTS

## Subset Selection Using Pairwise Symbiotic Evolution

May 2014 - Present

• 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.

#### Research Project, Context Aware Searching

Jan 2014 - May 2014

• 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.

Twitter Comics Feb 2015 - Present

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

#### Piiota May 2013 - July 2013

- 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

#### Recommendation Systems

Jan 2014 - May 2014

- Recommendation System for recommending singers, bands and songs to users.
- Used Pearson Coefficient, Slope One recommendation, Minkowski distance and Deviation Method.

Bingo Shell Nov 2012 - Jan 2013

- A GUI shell which makes Unix more user friendly .
- It has features like Automated Email Sending, Weather API, Music Player Integration etc.

#### Project X

March 2013 - May 2013

- An Open Source 3D racing game
- It has features like Model and Texture Loading , Skybox, Fogging Effect , Wall Detection , Dynamic Level Loading etc.

**AlphaPy** Oct 2013 - 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

**SQL** Parser Aug 2013 - Dec 2013

- Implemented Basic Relational Algebra Functions and Aggregate functions
- Storing Data through serializing in Dictionary for fast lookup time

#### AWARDS

#### Competitive Programming

- Ranked **3rd** among Indian teams in IEEEXtreeme-7.0
- Qualified for both ACM ICPC Amritapuri regionals and ACM ICPC Kharagpur regionals. My team ranked 24th in ACM ICPC onsite regionals .
- Solved 250+ problems in Spoj . Handle : tusharmakkar08
- Solved 125+ problems on Codechef . Handle: tusharmakkar08
- Rated Blue on codeforces . Handle : tusharmakkar08
- Ranked 33 among Indian teams in IEEEXtreeme-6.0

#### Haryana Pratibha Samman Award

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

#### Microsoft Code.Fun.Do

• Winner of Hackathon Code.Fun.Do organised by Microsoft.

#### Performance in Olympiads

- AIR 1 in Holy Faith's National Talent Search Exam 2009 .
- AIR 21 in National Science Olympiad 2009
- AIR 215 in National Science Talent Search Examination 2009
- Secured 93 percentile score in both International Maths Olympiad and National Cyber Olympiad
- Qualified NTSE Level 1 in 2009

#### 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

## EXTRA-

## • Microsoft Student Partner

## ACTIVITIES

- CURRICULAR 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.
  - An active Open Source Contributor, Open Source Report Card.
  - Executive Member NITK IEEE Student Branch, Bangalore Section.
  - Executive Member Amateur Astronomers Club (previously SGC) NITK
  - Worked in Engineer 2012 and 2013 the technical fest of NITK as a member of Comps Committee.
  - Webcasting Volunteer for Election Commission of India in the Dakshina Kannada Parliamentary Constituency for the General Election to Lok Sabha - 2014.