

Tushar Garg

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EDUCATION

IIT KANPUR

B.TECH IN MECHANICAL ENG.
MINOR IN THEORY OF CS
2016 - 2020 | Kanpur, India
Cum. GPA: 8.1/10

S.V.M. INTER COLLEGE

SENIOR SECONDARY (XII)
2016 | Uttarakhand, India
Percentage: 89.2

S.V.M. INTER COLLEGE

SECONDARY (X)
2014 | Uttarakhand, India
Percentage: 82.6

LINKS

Codeforces:// [tushartg](#)
Codechef:// [tushar_garg](#)
Hackerearth:// [tushar_garg](#)

COURSEWORK

GRADUATE-LEVEL

Modern Cryptology (A*)
Introduction to Machine Learning (A)
Topics in Topology (A)
Geophysical Flows Theory & Comp.

UNDERGRADUATE-LEVEL

Fundamental of Computing (A)
Data Structure and Algorithms (A)
Probability and Statistics (A)
Theory of Computation
Abstract Algebra
A*: Outstanding performance
A: Excellent performance

SKILLS

PROGRAMMING

Proficient:
C • C++ • Python
PHP • JavaScript
Familiar:
CSS • Java • HTML

FRAMEWORK

Laravel(Lumen) • ReactJS

UTILITIES

LaTeX • Git • Github

OPERATING SYSTEMS

Windows • Linux • Mac

AWARDS & ACHIEVEMENTS

- Global Rank 1708 in Round-B'20 and 1366 in Round-E'19, Google Kickstart.
- Expert on Codeforces. Best ranked 386 among 4500 participants.
- Rated 4 star on CodeChef with a global ranking of 3161.
- All India Rank 1180 in JEE(Advanced)-2016, among 150,000 candidates.
- All India Rank 1876 in JEE(Mains)-2016, among 1,200,000 candidates.
- All India Rank 205 in JEE(Mains BArch)-2016, among 200,000 candidates.
- 24th rank in Uttarakhand Board in Senior Secondary Exam, 2016.
- Among Top 1% in State in National Level Olympiad in Physics as well as Chemistry, Indian Association of Physics Teacher (IAPT).

EXPERIENCE

VMock | SOFTWARE ENGINEER

Sep 2020 – Present | GURUGRAM, INDIA

- Developed back-end in Lumen framework from scratch, of the Appointment booking Module with floating working hour, notes sharing functionalities.
- Synced the applications internal calendar with the Google and Outlook Calendars using Nylas APIs.
- Developed a full-stack User Task Management System with back-end in Lumen and frontend in ReactJS in a training period of one month.

PROJECTS

MODERN CRYPTOLOGY

Mentor: Prof. Manindra Agrawal | Jan 2020 – July 2020

- Classified and Deciphered Monoalphabetic Substitution Cipher, Vigenère Cipher and Substitution & Permutation Cipher encrypted text.
- Breake the 3 round Data Encryption Standard (DES) using Differential Cryptanalysis and round characteristics in Python.
- Leveraged knowledge in Finite Fields and Group Theory to analyse EAEAE structure and break it using a well known attack, the Square attack, for Advanced Encryption Standard.
- Analyzed a variant of Keccak hash function and found the inverses of linear functions in it. Devised preimage, collision and second-preimage attack for a special case of sponge function.

SQUARED SVM SOLVER & RECOMMENDATION SYSTEM

Mentor: Prof. Purushottam Kar | Aug 2019 – Nov 2019

- Solved Primal and Dual problem for squared hinge loss using Mini batch stochastic gradient descent, Coordinate descent, and Coordinate maximization.
- Read the paper on creating a Recommendation system based on propensity scored losses (PfasteXML and FastXML), which suggests rare labels for Wikipedia article and rare item for Amazon users, and trained the model on available codes.

POSITION OF RESPONSIBILITY

STUDENT GUIDE | COUNSELLING SERVICE

July 2017 – Aug 2018 | Kanpur, India

- Helped in Conducting the Orientation for more than 800 incoming freshmen.
- Supervised a group of six freshmen to get acclimated to the new college environment.