

Pushkar Dixit

github: pushkar-12
pushkard@iitk.ac.in | 8948416310

EDUCATION

IIT KANPUR

BTECH IN ELECTRICAL ENGG
(Minor in Algorithms)
Current CPI: 9.15

DR. VSEC AVADHPURI, KANPUR

Class XII (ISC) | 95.4%

DR. VSEC AVADHPURI, KANPUR

Class X (ICSE) | 96%

ACHIEVEMENTS

JEE ADVANCED (2016)

-Secured AIR 463 in ADVANCED 2016.

JEE MAINS (2016)- 279/360 in Mains 2016.

Academic Excellence Award (2016-2017 and 2017-2018)

-Awarded by IIT Kanpur for two consecutive years.

NTSE Scholar (2012) - Cleared National Talent Search Examination organised by NCERT

KVPY Fellow (2014) -Cleared Kishore Vaigyanik Protsahan Yojana (KVPY) organised by IISc, Bangalore with an AIR 25.

RMO (2015) - Secured 5th position in the state in Regional Mathematics Olympiad organised by HBCSE.

GS Quantify 2017 -AIR-88 ; hosted by Goldman Sachs

Rated as **Expert** on **Codeforces** (Link-pushkar12)

6 star Coder on Codechef with highest Rating of 2373 (Link-pushkar12)

COURSEWORK

Data Structures and Algorithms (A*)

Fundamentals of Computing (A*)

Complex Variables (A*)

Introduction to Logic (A)

Probability and Statistics (A)

Algorithms-2 (A)

Intro to Machine Learning (A)

Linear Programming ()**

(A*) Awarded for Extraordinary Performance

(**) Ongoing Course

MISCELLANEOUS

Secretary of Programming Club (2017-2018)

WORK EXPERIENCE

TOWER RESEARCH CAPITAL LLC. | SUMMER 2019 INTERN

May 2019 – July 2019

Standalone Protocol Dissecting Tool

- Worked as a Core Engineering intern in the Markets team under the Network-Capture/Protocol-Codecs division.
- Built a standalone tool in C++ for dissecting pcap files and dumping output to a file.
- Carried out dissection of pre-message parts which included extracting information about network protocols, timestamps etc.
- Wrote and Integrated API for dissection of the protocol specific message parts.
- Wrote tests for dissection API.

MONET NETWORKS INC. | SUMMER 2018 INTERN

May 2018 – July 2018

Hopscotch Hash-Maps

- Studied and implemented the Hopscotch Hashing Algorithm in C++ which outperforms many other open-addressing schemes like probing.
- Wrote well structured object-oriented code for the map akin to implementation of STL data structures.
- Compared performance of hopscotch map vs std::unordered_map on various kinds of operations with the former performing better in almost all cases. For instance, hopscotch_map took about 2/3 of time taken by std::unordered_map (80 seconds vs 120 seconds) for 1e8 insert operations of random integers.

MENTORSHIP | SUDOKUCAMSOLVER

June 2018 – July 2018

- Mentored three teams of IITK freshmen for the above project which was offered as a summer project in SnT camp under the Programming Club
- Involved building a python application for detecting/solving sudoku in realtime from webcam videoCapture.
- Use of algorithms like floodfill and contour-detection for detecting sudoku, SVM/knn for identifying digits and empty boxes and a Backtracking algorithm for solving.

PROJECTS

RL AGENT FOR CHROME OFFLINE GAME | FALL-2018

Developed a RL (Reinforcement Learning) agent to play the chrome offline T-rex game. Used a variant of Q-learning algorithm and CNN to train the model. Average score reached the 750 mark after about 800 games.

ACADEMIC PORTAL | FALL-2017

Built an academic mentorship portal (in the form of a PHP web app) for the campus that provided an interface for communication between freshers and the academic mentors.

MOVIE-RECOMMENDER WEB APP | MAY-JULY 2017

Developed a Django-based web application for serving recommendations of new movies to users based on movie ratings given by that particular user as well by other similar users using Movielens 100-k database.