

## Education

2017-2022 (Expected)	B.Tech + M.Tech (Dual degree) in <b>Computer Science and Engineering</b> Indian Institute of Technology, Kharagpur	CGPA: 9.54/10.0 (* Till 8th Semester)
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## Experience

July '21 May '21	<b>Systems Intern</b> - Worked on unit testing the portfolio module, particularly the various safety checks and related parameters. - Created a simple framework for the unit tests that enhances debuggability and supports addition of further tests with ease. Can be integrated with the codebase.	<b>Quadeye, Gurgaon</b>
Present May '18	<b>Competitive Programming</b> - Implemented numerous algorithms and data structures while solving over 1000 problems across various competitive programming platforms. - Placed within the top 300 in numerous worldwide contests organized with Codeforces, Codechef, Kickstart, etc.	<b>Codeforces, CodeChef</b>
May '19 Feb '18	<b>Software Team Member</b> - Worked on a novel and robust path planning algorithm taking the kinetic constraints of the bot into account, for a dynamic environment supported by a high accuracy localization. - Responsible for the ideal integration of the various modules such as vision, localisation, planning, sensor data, etc.	<b>Autonomous Ground Vehicle Research Group, IIT KGP</b>

## Projects

- **P2P File Sharing**
  - A decentralised peer to peer file sharing network with an unstructured network overlay built from scratch on python.
  - Offers a wide range of features in addition to the ones offered by a traditional peer to peer system, including but not restricted to state restore, bandwidth control, managing multiple downloads, etc.
- **Graph Algorithms on GPU**
  - Accelerating conventional algorithms to common graph problems like BFS, Single Source Shortest Path and All-Pair Shortest Path by parallelising them and executing them on a GPU using the CUDA framework.
- **Eklavya 7.0, Intelligent Ground Vehicle Competition (IGVC) 2019**
  - A robot capable of intelligently traversing an obstacle ridden course in a restricted environment, with camera, LIDAR and other sensors integrated over ROS framework using various algorithms.
  - The bot took part in the **IGVC 2019** competition for autonomous vehicles and bagged the 2nd place.
- **DigiCon, OpenSoft 2018 IIT Kharagpur**
  - A web application that accurately parses and mines the contents of a hand-written doctor's prescription with the help of OpenCV and advanced Optical Character Recognition(OCR); the gold winning entry for Inter-Hall Opensoft 2018.

## Technical Skills

<b>Programming Languages</b>	C, C++, Python, Java, Verilog
<b>Libraries / Frameworks</b>	CUDA, ROS, OpenCV, STL, Flex, Bison, MIPS, REST
<b>Systems / Platforms</b>	Linux, Git, Bash

## Technical Interests

Algorithms and Data Structures, Operating Systems, Networking, Robotics, Scripting and Automation.

## Achievements & Involvements

- **Projects** - I have taken up other projects like
  - **Hybrid A-Star**: Standard Hybrid A-star planner modified by using Dubins, Reeds-Shepp Path and Djikstra as heuristics.
  - **Sketchify**: A deep generative neural network that abstracts images by converting them to doodles/sketches
  - **KGP-RISC Processor**: a processor designed in Verilog with an ISA similar to MIPS.
  - **Crusade**: a bot that processes visual input using OpenCV and moves along the path obtained
- **Programming Societies** - Co-founder of **Grimoire of Codes** and was a Core-Team Member of **Kharagpur Open Source Societies** and **CodeClub** which help to nurture a programming zeal among the KGP community by organizing workshops, hackathons and fests.
- **Kharagpur Winter of Code 2018** - One of the organizers of the five week long GSOC-styled Open Source Program and an active mentor of one of the projects in it. Responsible for the development and maintenance of the KWOC website.
- **CodeNites Series** - A problem setter and tester for the fortnightly organized competitive programming contest series, CodeNites. It is organized to promote the competitive coding culture among the KGP students.
- **Scholastic Achievements** - **AIR 322:JEE Advanced** (99.8 percentile), **AIR 1784 :JEE Mains** (99.8 percentile), Twice **Kishore Vaigyanic Protsahan Yojana (KVPY)** Scholar