Rahul Kumar

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ACADEMIC DETAILS

Education	Institute	Year	CPI / %
B. Tech: Computer Science and Engineering	IIT Kharagpur	2016- Till date	**9.60 / 10**
Intermediate	DAV Kpildev, Ranchi	2014 - 2016	**95.4 %**

COURSEWORK

- **Completed** (Academic)
  Programming and Data Structures, Algorithms, Discrete Structures, Introduction to Electronics, Signals and Networks, Symbolic Logic

- **To be completed by April 2018** (Academic)
  Software Engineering, Logic and Switching Circuits, Formal Language and Automata Theory, Probability and Statistics

MAJOR PROJECTS

- **Kharagpur RoboSoccer Students' Group** (Research Project)   http://krssg.in/
  (Guide: Prof. Jayanta Mukhopadhyay , Feb'17 - till date)
  - implementing codes to make autonomous Soccer playing bots.
  - Implemented Finite State Machine architecture in Python for Small Sized League bots using ROS.
  - Research Areas: multi-agent robot system, Path Planning, Computer Vision, FPGA Architecture.

- **Action/Event Recognition for Safety Analytics** (Research Project)
  (Guide: Prof. Pabitra Mitra , Dec'17 - till date)
  - Implementing various papers on action recognition to exploit their usage for accident detection.
  - Automatic detection of such unfortunate incidents to avoid the damage/loss caused due to delay in information transfer.
  - Research Areas: Computer Vision, ConvNets, Encoder-Decoder Models.

- **RRT Simulator**
  Link: https://github.com/vernwalrahul/RRTSimulator/
  - Developed a GUI based interface for testing and analysis of various RRT algorithms.
  - Tools and Libraries Used: OMPL, PyQt and ROS.

- **Online Shopping Mall Management System**
  Link: https://github.com/vernwalrahul/Shopping-Mall-Management-System/
  - Exploring various fields of software development lifecycle.
  - Developing a JAVA based software to provide an online management platform for mall admin, shop owners and customers, easing their services and requests.

- **IBM Blockchain Hackathon**
  Link: https://github.com/vernwalrahul/KTJ-Blockchain/
  - Developed an application on digital certificates using blockchain technology to avoid fraud certificates and speed up the verification process.

EXPERIENCE

- **Instructor** (MIT-IIT Robotics Workshop)
  (Guide: Prof. Pabitra Mitra , 1st May'17 - 15th May'17)
  - Conducted a fortnight long Robotics workshop for higher school students.
  - Introduced basics of C, C++, Processing and their applications in the field of robotics.

- **Image Processing Mentor** (IEEE Robotics Winter Workshop)

- A week-long IP workshop for 1st and 2nd year undergraduates at IIT Kharagpur, teaching basic Image Processing using OpenCV and C++.
- **Organizing Team** (Code-o-Soccer 2018)
  A national level strategic planning based event held at Kshitij, 2018.

AWARDS AND ACHIEVEMENTS

- **KVPY 2016.**
  Secured All India Rank 9th in one of the presitigious examination initiated by Department of Science and Technology, Government of India

- **IIT JEE Advanced 2016.**
  Secured All India Rank 266 in JEE Advanced 2016.

- **Robocup 2017.**
  First team from India to qualify for SSL, Robocup 2017 held in Japan, among top 24 teams across the globe.

- **Best Fresher, Conquest, Kshitij 2017**
  Participated in an Robotics Event at Kshitij 2017 , Asia's largest techno-management fest. Awarded the best fresher at IIT Kharagpur.

- **IBM Blockchain Hackathon, Kshitij 2018**
  Secured 3rd position in the national level hackathon organized at Kshitij, 2018.

TECHNICAL SKILLS

- **Languages** C, C++, Python, LaTeX
  Field of Interest Path Planning, Machine Learning.