

Md Modassir Akhtar

Junior Year Undergraduate
Mathematics and Computing
IIT Kharagpur
India

Room No.: E-105,
R.P. Hall, IIT Kharagpur,
Kharagpur - 721302

+91 9475 654 367

mdsr.r30@gmail.com
[mdsriitkgp.github.io](https://github.com/mdsriitkgp)

SUMMARY

Work towards development of my skills under the guidance and supervision of experienced engineering professionals and gaining knowledge in terms of applying the various theoretical and practical classroom learning to real life solution.

EDUCATION

<u>Year</u>	<u>Degree</u>	<u>Institute</u>	<u>Percentage / CGPA</u>
2012 - Present	Integrated M.Sc. in Mathematics and Computing	Indian Institute of Technology Kharagpur	7.10 / 10 (4th semester)
2012	Class XII CBSE - AISSCE	Shatabdi Public School, Gaya	82.20%
2010	Class X CISCE - ICSE	De Nobili School CMRI, Dhanbad	92.71%

PROJECTS / WORK EXPERIENCE

Gait Recognition using Rotation Invariant Moments and Pose Kinematics on Kinect RGB Data

IIT Kharagpur — May-June 2014

Our aim was to work on Gait recognition using the RGB values of the image frames and compare with the works using depth and skeleton frames.

Accomplishments:

- Calculation time for testing reduced to 10 seconds over 20 subjects (80 samples).
- Achieved an accuracy of 85%.

Guide : Prof. Partha Pratim Das, Department of Computer Science, IIT Kharagpur

Techs Used: Python, OpenCV

Virtual Dressing Room using Microsoft Kinect

Grumpic — May-July 2014

Created a real time algorithm using Kinect to identify Human Body and its structure for simulating a virtual dressing room. I initiated the whole work for the startup (Grumpic) whose idea was to create a natural real time virtual dressing room. Currently the work is going on.

Accomplishments:

- So far I have been able to plot a 2D dress on human figure using live input from Kinect device.
- The dress moves according to the human distance from the Kinect and the body movements accordingly.

Guide: Amit Kumar, CEO and Founder at Grumpic

Techs Used: C#, Kinect SDK, Visual Studio 2012

Review on how Students Face Difficulties in Understanding Proofs in College Mathematics

IIT Kharagpur — July 2013

Wrote a paper on the above topic by illustrating Taylor's series and conducted a survey on the students of IIT Kharagpur on problems faced by them understanding Mathematical Proofs.

Accomplishments:

- This project helped students (though in a small way) on learning the methods for studying Mathematical proofs.
- The survey highlighted the issues faced by the students of different streams for studying and analysing proofs in Mathematics.

Guide: Prof. G.P. Raja Sekhar, Department of Mathematics, IIT Kharagpur

Lane Following and Shape Detecting Bot (Image Processing)

IIT Kharagpur — Dec 2013

Successfully designed and built a robot using camera and motor driver circuit. Designed an algorithm for blob detection and shape detection.

Accomplishments:

- The robot was successful in lane following and shape detecting purpose.
- The robot also detected and followed the direction of arrows to traverse its path.

Guide: Technology Robotics Society, IIT Kharagpur, [Certified by IEEE]

Techs Used: OpenCV, Visual Studio 2012, Arduino

TECHNICAL SKILLS

- **Programming Languages:** C/C++, Java, Python, HTML/CSS, JavaScript, PHP
- **Software Packages:** Matlab, OpenCV, Django, Visual Studio 2012, Solid Works
- **Hardware:** Arduino, AVR Microcontroller
- **Platforms:** Linux, Windows

ACADEMIC DISTINCTIONS

- Was within **top 1% among 0.52 million candidates** appeared for **IIT-JEE 2012**
- **KVPY Fellowship:** Among **77** students in India receiving Prestigious **Kishore Vaigyanik Yojana** Scholarship since August 2012 (in [Stream SX](#)), conducted by I.I.Sc. Bangalore, and was Invited for **VIJYOSHI** Camp in December 2012
- Qualified Level 1 in **Facebook Hacker Cup** 2014
- State rank **5**, city rank **1** in **NLTSE** conducted in various schools in class 10th in region Dhanbad, Jharkhand
- Reached **Silver Plus** level in **HDFC Bank Meritus Scholarship** 2009 in class 10th
- Won more than **30 medals** of Gold, Silver and Bronze in competitions held by Mathematics Academy of my primary school during 2001-2002

RELEVANT COURSES

- Programming and Data Structure
- Artificial Intelligence
- Object Oriented Systems Design
- Design and Analysis of Algorithms
- Computer Organisation and Architecture
- Probability and Statistics
- Engineering Drawing and Computer Aided Designing
- Economics (Micro, Macro and Indian Economy)

POSITIONS OF RESPONSIBILITY

- Was an active member in organising **SPRING FEST 2013**, IIT Kharagpur as an **Associate Publicity Member** and was responsible for bringing participations from three major cities of India including Delhi, Kolkata and Patna

EXTRA - CURRICULAR ACTIVITIES

- Participated in **Read Today for Better Tomorrow** programme, phase 2007, an intra school Quiz Contest held by **India Today Group**
- Active **NSS (National Service Scheme)** Volunteer from 2012 - 2014, helping village students in their studies and attended a week long **NSS** Winter Camp in December 2012 for betterment and development of a nearby Village