

Umang Lilha

3rd - Year B. Tech Student
Electronics and Communication Engineering
Indian Institute of Technology (ISM) Dhanbad

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Academic Details

Year	Degree	Institute	Percentage/CGPA
2016-Present	B. Tech in Electronics and Communication Engineering	Indian Institute of Technology (Indian School of Mines) Dhanbad	CGPA = 8.50/10 (till 5 th semester)
2015	Senior Secondary Examination, ISC	St. John's School, Marhauili ,Varanasi	92.60%
2013	Secondary School Examination, ICSE	St. John's School, Marhauili ,Varanasi	89.16%

Major Projects

• Tracker

<https://github.com/UmangLilha/GoogleMap>

- A GPS base tracking app that tracks the current location and displays information like latitude, longitude , altitude and speed.

• Alarm Clock

<https://github.com/UmangLilha/AlarmClock>

- This app has all the basic feature of an alarm clock including ringtone and pop up notification service.

• Traffic Sign Recognition and Classification using Deep Learning

- Used Tensorflow(Python) to implement the sign recognition and classification on LISA Dataset. Implemented VGGNet to achieve ~97% correct classification rate for 47 different classes with ~4.5K training images.
- Devised an image processing algorithm using OpenCV to use the inference graph from the trained model to detect the signs in real life. Implementation was robust to blur, deformation and partial occlusions.

• Sun Tracking Solar Panel

- Devised a solar tracker system by using digital image processing algorithm. The algorithm provides the best alignment of the photovoltaic module with the Sun's radiation to get the maximum power output (electricity).

- **Autonomous Image Capturing and Plotting Robot**

- Designed and implemented an algorithm in OpenCV (python) that detects the target object in an image and computes the coordinates of its boundaries which is then used for plotting .

- **Robocon'18 | ABU Asia pacific Robot Contest**

Guide: Dr. Kaushik Mazumdar, IIT(ISM) Dhanbad

- Implemented a dynamic PID Control algorithm to improve the navigation reliability of the high speed line tracking robot. The control technique was successfully tested on a prototype line tracking robot.
- Programmed robots to perform throwing of shuttlecock through 3 different rings located at different heights and distances.

Training

Android Application Development from UPTEC,Varanasi

- Integrated the Google Maps SDK for Android.
- Created interactive UI controls using Material Design.
- Integrated and implemented various features of Firebase like Real-time Database and Authentication with the Android App.

Technical Skills

- **Programming Languages:** C/C++, Python(Novice), PHP, MySQL
- **Software:** Android Studio, OpenCV, MATLAB
- **Development Boards:** Arduino , Raspberry Pi
- **Platforms:** Linux and Windows.

Position of Responsibility

- **Student Coordinator | Robotics and AI club, IIT(ISM) Dhanbad**
 - Conducted various tutorial sessions on Image Processing, Wireless Communication Modules, Development boards, sensors.
 - Directed and assisted in various club activities like event management, website designing & marketing.
- **Robotics Coordinator | Concetto'18 – Tech-fest, IIT(ISM) Dhanbad**
 - Responsible for handling Robotics events and overall logistics during the course of events.
- **Organizer| E-Cycle**
 - A campus-wide E-Waste Management Drive.

Scholastic Achievements

- Secured All India Rank of **5962** in **IIT-Joint Entrance Examination 2016**.
- Ranked **1st** in **District level Quiz Competition** in 2015.