

# Kumar Ankit

kr.ankit00@iitkgp.ac.in | +91 769 909 2926 | LinkedIn: kr-ankit

## EDUCATION

### IIT KHARAGPUR

BTECH (BACHELOR'S) IN MINING  
ENGINEERING

Expected Apr 2018 | Kharagpur, IN  
Cum. GPA: 8.27/10.0

### MUNAM PUBLIC SCHOOL

Grad. March 2014 | Hazaribag, India  
12th Grade CBSE: 90%  
State Level Green Olympiad

## SKILLS

### PROGRAMMING

C • C# • Python • Beaglebone  
Odroid • Raspberry Pi • ATmega  
Arduino

### TECHNICAL

Wireless Networks • Basic Electronics

### SOFTWARES

Proteus • Solidworks • PSpice  
Eagle PCB Design • Excel • Powerpoint

## AWARDS & HONORS

**Gold Medal** - Inter IIT Tech-Meet 2017,  
IIT Madras, Autonomous Toilet Cleaning

**Gold Medal** - Inter IIT Tech-Meet 2016,  
IIT Kanpur, Product Design

**Gold Medal** - Tech Championship, 2016,  
Product Design | AISD

**Gold Medal** - Product Design - Open IIT  
**Silver Medal** - Tech Championship 2015,  
Hardware Modelling | THAWR

**Best Fresher** - Azad Hall of Residence,  
I.I.T. Kharagpur for the session 2015-16

**Silver** - Street Play at IIM Calcutta

## CO-CURRICULARS

Participated in Open IIT **Hindi Elocution**

Participated in **Hall Dramatics**

Participated in **Minefield Robotics Event**

Stage actor at **English Technology**

**Dramatics Society**, IIT Kharagpur

Attended awareness programme on

**Disaster Management**

**Managed interns** including finding  
internships to final return while being a  
part of **AIESEC**, IIT Kharagpur

**Microsoft Code Fun Do:** Developed an  
app to complete the three-day hackathon  
successfully using C# and visual studio

## EXPERIENCE

### TATA Steel | Summer Trainee

May 2017 – Jul 2017 | Dhanbad, IN

- Received a **Pre-Placement Offer** to join TATA Steel as a full time employee based on excellent performance during the summer internship.
- Worked as an intern in the Mine Management Team at the Digwadih Mine, Dhanbad on the project **Improvement in Coal Generation per man per shift in the development panel**.

### Soch3D | Virtual Reality Based Startup | Hardware Engineering Intern

May 2016 – Jun 2016 | Kharagpur, IN

- Interfaced 16-bit precise ADC & Integrated 12 high precision pressure sensors in one arm, including calibration with weight using 24-bit precise HX711 sensor.
- Designed** PCB for one finger including all sensors and micro controllers.
- Integrated and Optimised high torque & precise **Dynamixel®**.
- Designed **fail-safe** whole data flow control from all the systems involved.

### Swarm Robotics, IIT Kharagpur | Sub-Head (Embedded Electronics)

Feb 2015 – Feb 2017 | Kharagpur, IN

- Designed robust **intra-communication** protocol for independent robots.
- Interfaced Raspberry Pi/Beaglebone with IR sensors on **decentralized systems** and monitored RSSI indexes to tackle indoor localisation problem.
- Responsible for and **managed** a team of 8 members during the tenure.

### Aerial Robotics, IIT Kharagpur | Sub-Head (Controls)

Feb 2015 – Feb 2017 | Kharagpur, IN

- Represented India in **IARC (International Aerial Robotics Competition) 2016, Beijing, China** and were awarded the Best Team Cooperation Award.
- Worked on different kind of micro-controllers, sensors, flight board controllers & actuators and implemented **autonomous navigation & positioning**.
- Responsible** for a team of 7 members and task delegation, procurements etc.

### Kharagpur Robosoccer Students Group

Feb 2015 – Feb 2016 | Kharagpur, IN

- Interfaced Wireless Modules: Xbee & NRF, which includes **efficiency**, data-loss over distance & Brushless Maxon Motors using ESC & Gate Driver.
- Implemented PID & Fuzzy to optimize velocity control and created GUI to enhance the **tuning process**.
- Designed **main circuit** for FIRA robots using Eagle PCB Design & Schematic.

## PROJECTS

### AUTONOMOUS TOILET CLEANING ROBOT

Nov 2017 – Present | Kharagpur, IN

Created **first ever** mobile toilet cleaning robot which is capable of detecting and cleaning english toilet seat in minutes & trained it using **Deep Learning algorithms**. Currently robot is aimed to serve in Swachh Bharat Mission by the Govt. of India.

### TEACHABLE HUMAN AUGMENTED WORKSTATION ROBOT

Nov 2015 – Feb 2016 | Kharagpur, IN

Made a **humanoid voice-interfaced** wireless robot (THAWR) aimed to serve in rescue & heavy-duty industrial operations. THAWR can work independently or on user inputs and set programs. THAWR can also **replicate human actions** in real time.