

# Surya Prakash Mishra

Sophomore Year Undergraduate  
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[github.com/old-school-kid](https://github.com/old-school-kid)

## EDUCATION

<b>Indian Institute of Technology (Indian School of Mines) Dhanbad</b> <i>Bachelor of Technology in Mineral and Metallurgy Engineering (CGPA: 7.89)</i>	Dhanbad, India July 2019 – May 2023
<b>DAV Public School, Chandrasekharapur</b> <i>Senior Secondary (Percentage - 88.0%)</i>	Bhubaneswar, India May 2018
<b>Chinmaya Vidyalaya, Rourkela</b> <i>High School (Percentage – 94.6%)</i>	Rourkela, India May 2016

## EXPERIENCE

<b>Remote Research Intern</b> <i>Indian Institute of Science Education and Research, Pune</i> <ul style="list-style-type: none"><li>Working on Mineral Exploration under <a href="#">Dr.Sudipta Sarkar</a></li><li>Working on Mineral Exploration and classification using Sentinel Satellite Data</li></ul>	February 2021 – April 2021 Pune, India
<b>NLP Engineer</b> <i>Quantum AI systems</i> <ul style="list-style-type: none"><li>Developed a transformer based chatbot for fin-tech conversations</li><li>Deployed a chatroom website with the chatbot in built using Flask</li></ul>	May 2021 – July 2021 Dhanbad, India

## PUBLICATIONS

<b>Novel deep learning architecture for accelerated identification of microstructure in material science</b> <ul style="list-style-type: none"><li>Designed a state-of-the-art model to classify microstructures from SEM images</li><li>Designed several models based on different CNN models and compared their performance</li></ul>	May 2021 – July 2021
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## PROJECTS

<b>Sahayak Bot</b> / ROS, Gazebo, Rviz, OpenCV <ul style="list-style-type: none"><li>Working on Developing a Husky Robot with an Arm Manipulator to Assist humans in day to day and Industrial Tasks</li><li>Implemented Navigation Stack to move the Robot around in the Office Environment in Gazebo to reach Designated Waypoints.</li><li>Learning and Implementing the usage of Manipulators on the Husky Robot</li><li>This project is a part of the E-Yantra 2020 - The Largest MOOC Competition in Robotics</li><li>Project Link – <a href="#">Sahayak Bot</a></li></ul>	December 2020 – Present
<b>NLP based Drowsiness Detector</b> / DeepSpeech, IMU, Alexa Skill <ul style="list-style-type: none"><li>IMU detects irregular pattern in driving</li><li>Talk2Me/Alexa ask for a verbal response</li><li>Cloud records data and sends out SoS message</li><li>Project Link: <a href="#">Drowsiness Detector</a></li></ul>	December 2020
<b>Smart Warehouse Management</b> / Demand Prediction, Blockchain, Flask <ul style="list-style-type: none"><li>Used an ensemble of regressor and LSTM to predict demand.</li><li>Used blockchain to track food supplies for security.</li><li>Communication platform created using firebase.</li><li>Deployed the model over Flask</li><li>Project Link: <a href="#">Smart Warehouse</a></li></ul>	March 2020

## **Division** / Depth Camera, Object recognition

March 2021

- Depth Camera in front of a truck constantly detects traffic approaching from opposite side
- If the approaching vehicle is near, then a strip of red led is lighted on the back of truck
- Vehicle behind the truck don't overtake if there is a vehicle approaching

## **FireNet** / Tensorflow, OpenCV, Flask

February 2021

- Developed a Deep Network to detect fire
- Employed OpenCV tools to measure the severity of fire
- Used Bellman-Ford algorithm to create an escape map
- Deployed the model over using Flask
- Project Link: [Fire-Net](#)

## TECHNICAL SKILLS

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**Languages:** Python, C/C++, JavaScript

**Frameworks and Libraries:** Tensorflow, Keras, ROS (Robotic Operating System), OpenCV, Flask, Pytorch, Numpy, Pandas,

**Tools:** Docker, Git, Visual Studio, Gazebo, Rviz, Anaconda

**Hardware:** Arduino (Uno, Mega, Nano), RaspberryPi(3B+), ESP32, ESP8266, NVIDIA Jetson

## SPORTS PROGRAMMING

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**Codeforces:** Handle- [Surya-mishra](#), Rating-1363

**Codechef:** Handle- [old\\_school\\_kid](#), Rating-1799

**HackerRank:** Handle- [mishrasp393](#), 2 gold badges (Python, Problem solving)

## RELATED COURSEWORK

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- **Deep Learning Specialization:** The complete basics of deep learning course provided by DeepLearning.ai
- **Advanced Tensorflow Specialization:** Advanced techniques and application in deep learning using Tensorflow
- **Self-Driving Cars Specialization:** The complete course on building a self-driving cars and robots in general
- **Modern Robotics:** Northwestern University
- **Generative Adversarial Networks Specialization:** The complete and in-depth knowledge about GANs

## ACHIEVEMENTS

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- Runners Up in FallFest 2021.
- 3<sup>rd</sup> Runners Up nationwide in Honda Hackathon, 2020.
- Runners Up in debate competition in college.
- AIR-103 in NISER, 2019.

## POSITION OF RESPONSIBILITY

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- Coordinator of RoboISM the robotics and AI club of Indian Institute of Technology, Dhanbad.
- Anchored the inaugural ceremony of Srijan,20, the socio-cultural fest of IIT(ISM), Dhanbad.
- Editor of annual school magazine.

## EXTRA-CURRICULAR

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- Represented college in InterIIT quiz competition.
- Integral member of the creative writing society of the college.
- Part of the school's cricket and football team.