

# Gaurav Sharma

Deep Learning Engineer

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## WORK EXPERIENCE

### Research Intern

Dr Ashish Anand, IIT Guwahati

10/2019 – Present

#### Achievements/Tasks

- Built a spell checker using character level Sequence To Sequence GRU. Works at 93% accuracy.
- Parsed, cleaned, and stored as JSON the ayurvedic medicine data from PDFs using Tika library.
- Project 'Ayusandhan': Made a search engine that provides smart suggestions of appropriate ayurvedic medicines to patients by retrieving data from JSON files using Elasticsearch and Flask.

### Research Intern

Dr Prakash Kotecha, IIT Guwahati

07/2019 – 09/2019

#### Achievements/Tasks

- Implemented architectures for NSF Panel Assignment, Production Planning, and Job Shop Scheduling problem in MATLAB. Goal was to make them widely available by open sourcing their code and building GUIs.
- Formulated a novel Production Planning approach which accounts the impact of byproducts on revenue.
- Assisted in creation of NPTEL course on 'Computer-Aided Applied Single Objective Optimization' via data collection, analysis, and content building.

### Rakshak - An all terrain rescue robot

Long Term Project

#### Achievements/Tasks

- Made a cost-effective model of an all-terrain robot with a mechanical arm which can drive over any terrain (rocker-bogie mechanism) and do surveillance.
- Working on mounting a real-time object detector on the robot using Faster RCNN algorithm to identify and locate objects lying in front of the robot.

### Project Intern

Compucom Software Limited

12/2017 – 12/2017

#### Achievements/Tasks

- Built a dynamic website 'Sportspedia' using PHP, HTML and CSS. Linked the website with MySQL database.

## EDUCATION

### B.Tech (ECE)

SRM IST, Kattankulathur

06/2015 – 05/2019

78.63%

## SKILLS

Python

Computer Vision

NLP

Pytorch

Matlab

Pandas

Numpy

Flask

## ACHIEVEMENTS

Published a paper in International Journal of Research on 'RAKSHAK- An All Terrain Rescue Robot'. Also, won 2nd Prize for the project in Minor Project Exhibition featuring 300+ teams.

Presented a paper on GUI tool for 'Production Planning' in ICSO'19

Secured 1st position in oral/paper presentation held during Reflux'19 for 'Performance Analysis of sTLBO, PSO and GA on Single Unit Production Planning'.

## PERSONAL PROJECTS

### Wheat Head Detector (05/2020)

- Developed a detector to help farmers assess health and maturity of crops to make management decisions in fields.
- The model uses Faster RCNN with FPN to analyse the crop images, identify wheat heads and builds a bounding box.

### Whatsapp Chatbot (04/2020)

- Built a Chatbot using character level Seq2Seq recurrent model.
- Trained the model on custom Whatsapp chat dataset and connected it with Whatsapp web using Selenium.

### Hand Exoskeleton For Recuperation (03/2019)

- Developed a hand-exoskeleton that helps in recuperation from bone injuries by providing physiotherapy to the patient.
- Key components include Arduino UNO, MG945 Servo Motors and Flex Sensors. The hand movement of the good hand is replicated in the mutilated hand of the patient.

### Other Projects

- GSM based home security system. Alarms user regarding the presence of an intruder via SMS notification.
- Toothbrush Timer to monitor the brushing time.
- PIR Sensor Arduino Alarm.

## CERTIFICATES (COURSERA)

Convolutional Neural Networks (06/2019)

Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization (06/2019)

Neural Networks and Deep Learning (05/2019)

Structuring Machine Learning Projects (06/2019)