

# SHIV KUMAR

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📍 New Delhi, India

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## EDUCATION / COURSES

Bachelor of Engineering

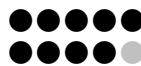
**Netaji Subhas Institute of Technology, Delhi University**

📅 August 2016 – May 2020 📍 New Delhi, India

CGPA : 8.27

## SKILLS

C++, Python, Keras, Unix  
Tensorflow, Pytorch, Darknet



## EXPERIENCE

Research and Development Intern

**Laboratory for Computational Social Systems, I.I.I.T. Delhi**

📅 December '19 - March '19 📍 New Delhi, India

- Part of a team conducting research on collusive social networks.
- Worked on determining candidate collusive groups on online reviews and ranking them to achieve state of the art results.
- Implemented multiple baselines and scraped data to prepare datasets used in the research.

Undergraduate Researcher

**Center for Advanced Information Technology Studies**

📅 October '18 – 📍 New Delhi, India

- Worked on projects relating to opportunistic networks.
- Also worked on wireless energy transfer incentive based routing.

Software and AI lead

**Automated Rover & Embedded Systems, N.S.U.T.**

📅 October '18 – 📍 New Delhi, India

- Currently leading a team of 10 developers to design and implement the software systems for an autonomous rover to participate in a 4 phase University Rover Challenge which involves working on ROS, OpenCV; implementing different SLAM based algorithms.

## AWARDS AND ACHIEVEMENTS

- Participated in 12 Model United Nations Conferences; Won awards in 9 of them.
- Awarded the pyTorch challenger scholarship by Facebook and Udacity. Later went on to receive full scholarship for Udacity's Deep Learning Nanodegree for successfully completing the pyTorch challenge.
- Awarded the school scholar achievement award for continuous academic excellence for 5 years.

## PROJECTS

**Beacon**

- Implemented sarsa max based temporal difference algorithm to train a Reinforcement Learning agent to find an optimum path to pick and drop passengers.
- Was able to score more than 9.1 best average score over 100 consecutive episodes, that is more than the limit set according to openai gym.

**Magical commands for BASH (MCB)**

- Started an open source project to bring together Harry Potter fans on Github to replace bash commands with harry potter spells with regular improvements and maintenance.
- Guided beginners in open source to make their first contributions by making beginner friendly entry points.

**Saber**

- A project meant to facilitate the process of integrating college time table into user's schedule while also reporting clashes in different time slots due to different electives facilitating elective selection.
- Used by multiple students around university, saving hours of productive time.

**Dactyl**

- Trained a double-jointed arm simulation to move to target locations using Deep Deterministic Policy Gradients Reinforcement Learning.
- Used distributed experience collection to improve performance and reduce training time. Training done without this needed 1000+ episodes to train the agent.
- Achieved benchmark score of +30 in 125 episodes.

**Shield**

- Developed a steganography based password manager to add an encryption layer without requiring explicit password protection.

## POSITIONS OF RESPONSIBILITY

Head of Operations | Delegate

**Delegation to Harvard National Model United Nations, Boston, M.A.**

📅 Oct '16 – March '17 📍 New Delhi, India

- Member of award winning delegation at the prestigious 4-day conference which saw participation of over 3000 students from 70+ countries.
- Oversaw logistics, operations and documentation of the entire delegation, interacting with different stakeholders in the process.