

# Prakhar Mittal

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## EDUCATION

**Georgia Institute of Technology, Atlanta, GA**  
*B.S. in Computer Science - Devices & Intelligence*

**GPA: 4.00**

*Aug 2020 - May 2023*

**Courses:** Data Structures & Algorithms, OOP, Computer Organization, Design Patterns, Data Visualization & Analysis

## EXPERIENCE

### Drone Delivery Network

*Undergraduate Researcher - VIP Program*

Atlanta, GA

*Sep 2021 - Present*

- Building an Android app that displays the live location and ETA of delivery drones using the Google Maps API.

### Track My Change

*Web Development Lead*

Berkeley, CA

*May 2021 - Present*

- Designed customized widgets to quantify and convey the impact of social organizations in the US and Nepal.
- Monitored user interaction using JavaScript: observed significant increase in donations and volunteer enrollment.

### RoboJackets

*Software Developer*

Atlanta, GA

*Sep 2020 - Present*

- Successfully implemented A-star path-finding algorithm, and designed a PID controller as part of training project.
- Leveraged computer vision techniques (kernel filters, morphological transforms, edge detection, multi-scale contour & template matching) for an autonomous RC-car to detect road signs & traffic lights with 98.3% accuracy.
- Used a multi-threading approach to speed up the process. Written in C++ & OpenCV. Tested using ROS bag files.

## LEADERSHIP

### Node Computing Club, Robotics & Web Dev Lead

*Feb 2018 - Feb 2020*

- Developed and maintained websites for several clubs and events, primarily used Django with Heroku for PaaS.
- Organized hackathons with 800+ participants from North India, and introduced a new autonomous robotics event.

### AC/DC Robotics, Software Lead

*Nov 2016 - Jan 2018*

- Spearheaded the design of a semi-autonomous robot capable of holonomic driving, and launching projectiles.
- Achieved precision control of drivetrain based on feedback from gyroscope, accelerometer, and motor encoders.
- Created a Java app in Android Studio for detecting colors from phone images, and IR-based distance sensing.
- Winning Alliance Captain & Inspire Award at FIRST Tech Challenge India. Represented India at World Championship.

### High Voltage Robotics, Co-Founder & Captain

*May 2015 - Nov 2016*

- Enabled robot to observe surroundings, detect, and sort objects, using data from ultrasonic & light sensors.
- International Runners-up at World Robot Olympiad 2016 (55+ countries).

## PROJECTS

### Juvenile Crime in India Analysis

- Examined government data on juvenile crime in India from 2001-10. Data transformed in Pandas & NumPy.
- Used k-means clustering in sk-learn to classify states by performance, and visualized trends in Seaborn & Plotly.

### Odyssey Cryptic Hunt

- Designed a platform to host India's first quest-based cryptic hunt with 250+ participants and 10,000+ answers.
- Crafted storylines and 20 elaborate puzzles employing interactive UI elements, steganography, and ciphers.

### IdeateFX: Startup Ideation Tool

- Devised a JavaFX app that accelerates brainstorming and managing startup ideas based on feasibility metrics.

## HONORS

**All India Secondary School Examination:** Ranked 1<sup>st</sup> out of ~1.6 million students & received multiple scholarships.

**International Olympiad in Linguistics:** Ranked in top-25 in India & qualified to attend National Training Camp.

## SKILLS

**Languages:** Java, C, C++, Python (sk-learn, NumPy, Pandas, Seaborn, Plotly), HTML, (S)CSS, JavaScript, SQL

**Tools:** Linux, Git, Docker, ROS, OpenCV, Gazebo, Arduino, JetBrains, Jupyter, ClickUp, Web Hosting, Adobe XD