

# Srajan Chourasia

Indian Institute of Technology, Goa

Fourth Year **Undergraduate, Computer Science and Engineering**

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[LinkedIn](#) [Github](#) [LeetCode](#)

## Education

<b>BTech, Computer Science and Engineering</b> , Indian Institute of Technology Goa	CGPA : <b>8.17/10</b>	2020 – Present
<b>Class 12, CBSE</b> , Army Public School, Bhopal	Aggregate: <b>91.8 %</b>	2018 – 2020

## Experience

### Research and Development Intern, **Siemens EDA**

(July 2023 – Present)

- Working under the Questa team, focusing on optimization and simulation of designs.
- Gained expertise in System Verilog by learning and using the product from a user's perspective.
- Currently focused on compiler optimization in C/C++ and Python to improve design performance, test bench simulation and design coverage.

### Machine Learning Research Intern, **IIT Goa**

(June 2022 – Sep 2022)

[Guidance of **Dr. Sharad Sinha** | IIT Goa]

- Developed multitasking CNN model for low-end devices, utilizing TensorFlow and Keras for pothole and threat level prediction.
- Curated and merged diverse datasets, creating a comprehensive 30k-image dataset with mapped features.
- The Android app uses the model for real-time pothole detection and threat level assessment, allowing citizen uploads and server-based prioritization for PWDs' repair decisions. Presented colour-coded density maps on Google Maps or Bharat Maps.

### Contributor at **GirlScript Summer of Code'22** [Open Source Program]

(March 2022 – May 2022)

- Contributed to the **ML-CaPcule** project, actively participating in various tasks and enhancements.
- Developed a Tomato Plant Disease Predictor, Alzheimer Disease Prediction CNN Model, and Heart Disease Classifier as part of the project.
- Expanded the project by adding a comprehensive section on Basic Deep Learning using Keras.

## Projects

### Face Recognition cum Reverse Search [[GitHub](#)]

(Aug 2022 – Dec 2022)

- Developed an efficient face recognition system capable of learning from just one image.
- Implemented a reverse image search feature to retrieve metadata of similar images from the web.
- Recognized for excellence, winning the Goa Police Hackathon for the project.

### Face Mask Detector [[GitHub](#)]

(Feb 2021 – April 2021)

- Developed a Convolutional Neural Network (CNN) model to accurately detect whether a person is wearing a mask or not.
- Utilized OpenCV for real-time webcam face detection, passed the detected face to the model, and displayed the results on the screen.

### Re Cafe [[GitHub](#)]

(April 2021 – May 2021)

- Developed a terminal-based application for café management using Python.
- Created multiple Python scripts to efficiently handle, manage, and store cafe-related data using CSV files as the database.

### Google Trex Run Game Automation using OpenCV Template Matching [[Video](#) | [GitHub](#)]

(April 2021 – May 2021)

- Worked on teaching Template Matching using OpenCV python for 2 hr workshop followed by 48 hr hackathon that got 2nd highest participation.
- Automated the Google Trex run game live in the workshop using the concept taught and judged the hackathon with a topic of automating games.

### Autonomous Agricultural Analysis [*Under the Guidance of **Dr. Satyanath Bhat**, IIT Goa*]

(June 2022 – Present)

- Utilizing Raspberry Pi and Arduino with various sensors for autonomous data collection from the field.
- Developing advanced models for autonomous agricultural analysis and generating comprehensive reports on land and surrounding atmosphere.

## Skills

<b>Programming Skills:</b>	C, C++, Python, MATLAB, Git, Linux Bash, Haskell, VHDL, System Verilog, HTML, CSS and JavaScript (Basic Web Dev).
<b>Frameworks/Libraries:</b>	OpenCV, TensorFlow, Pandas, Numpy, Keras, Matplotlib, Seaborn, Boost C++, PyTorch, GitHub, Latex
<b>Software Development:</b>	AI, ML, Deep Learning, Computer Vision, Reinforcement Learning, IoT, OOPs and Web Development for AI/ML/DL.
<b>Relevant Coursework</b>	DSA, Probability and Statistics, ML, AI, Optimization, Neural Networks and Deep Learning, Improving Deep Neural Networks: Hyperparameter tuning, Regularization, and Optimization, Computer Architecture, Compiler, Algorithm Design, Modeling and Simulation of Systems, OS, Functional Programming, Computer Graphics using OpenGL.

## Positions of Responsibility

<b>General Secretary of Technical Affairs</b>	Head position of IIT Goa Student Technical Council.	(2022 – 2023)
<b>Overall Coordinator Cepheus'23</b>	Leader of a team of more than 50 students.	(2022 – 2023)
<b>Core Member:</b>	Core Member of Google Developers Student Club in AI/ML Team.	(2021 – 2023)
<b>Student Mentorship Program</b>	Selected to mentor 1 student	(2021 – Present)

## Achievements

- Collaboratively authored and submitted research paper titled '**An Intelligent Pothole Management System Using Multi-Tasking CNN on Android**' with **Dr. Sharad Sinha** to the prestigious **IEEE Indicon2023 conference**. (Present)
- State Topper in the Regional Mathematics Olympiad (RMO). (2019)
- Won third prize in the Goa Police Hackathon. (2022)

## Extracurriculars & Hobbies

- Playing Football and making Drawings.
- Love watching Anime and Reading Manga.