# Amrutya

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## SUMMARY

An aspiring SDE, looking to seek sought out positions for developer roles in industries oriented with Software tools, Hardware, Web Development and Artificial Intelligence.

## EDUCATION

**ILLINOIS INSTITUTE OF TECHNOLOGY, CHICAGO, ILLINOIS**                    Expected Graduation Date : May 2024

**Master of Science in Computer Science**

Relevant Courses: Parallel and Distributed Computing, Advanced Operating System, Operating System design and implementation, Trustworthy Machine Learning, Advanced Database Organization, Computer Networking - II(Network Security), Multimedia Networking, Software Engineering, Mobile Application Development, Cloud Computing.

**BMS COLLEGE OF ENGINEERING, BANGALORE, INDIA**          Graduation Date : Sept 2018 - July 8, 2022

**Bachelor of Engineering in Information Science and Engineering**                    GPA - 8.4/10.0

Relevant Courses: Operating Systems, Database organization and implementation, Data Structures and algorithms, Advanced Data Structures and Algorithms, Software Engineering and Object Oriented Design, Software Project Management, Machine Learning, Data Mining, Financial Management, Programming in C++, Object Oriented Programming, Web Development

## SKILLS

**Languages :** C++, JAVA, Python, R, RubyonRails
**Frameworks :** Spring, SpringBoot, AngularJS
**Web Technologies :** HTML, XHTML, CSS, JavaScript
**Databases :** MySQL, SQL Server, MongoDB
**Cloud Computing Platform :** AWS EC2, AWS S3
**Tools :** Android Studio, Visual Studio, PyCharm, IntelliJ, Sublime Text, ATOM.
**Soft Skills :** Communication, Problem Solving, Team Player, Time Management

## RELEVANT EXPERIENCE

**Defensive Hacker**                                                                        May 2022 - July 2022
Cisco(in partnership with IIT Chicago and Globalshala through Elevate Program)          Remote, Bangalore, INDIA
- Built a new Virtual Operating System with VeraCrypt and TrueCrypt
- Hands-on experience with Phishing techniques
- Built kernel OS on VM

**Research Intern**                                                                        April 2022 - July 2022
Indian Institute of Science (IISc)                                                          Bangalore, INDIA
- Published a paper in BMJ (Bulletin Monumental Journal, Volume 23, Issue 7)
- Hands-on experience in AWS S3, EC2
- Designed a prediction model of ML based on Computer vision and algorithms

## PUBLICATION

**Crop Yield Prediction Using Machine Learning and Computer Vision**

1. Published paper in Volume 23, Issue 7
2. Used Flask API
3. Built a model and hosted on AWS (live server)
4. Predicts crop yield and price for a given range of input parameters such as Humidity, Temperature, pH, Rainfall

# ACADEMIC PROJECTS

**Crop Recommendation System using Machine Learning and Computer Vision**                    Sep2021-Feb 2022

A group project consisting of 4 members, built an ML model to predict and deliver proper recommendations about required fertilizer ratio based on soil parameters.

This recommendation system consists of a UI where the client first has to login to register himself on a Web Application created by Flask. These login details are now stored in SQLite database.

The dataset that was collected from Kaggle was fused and joined with the raw data that we collected from our contacts.

**Olympic Events Organizer**                    Aug -Dec 2020

In a group of two, developed a Crud-based web application for stacking and operating on events' records. Implemented MongoDB, Mongoose NPM, NoSQL, ExpressJS, and NodeJS.

Developed an app that supported tasks like the addition and deletion of events from a webpage by reflecting changes in the MongoDB on the web application. It also maintains a track of the events completed using jQuery and sessions integrated into PHP.

I worked as the backend developer for maintaining these records and developed part of the frontend using Bootstrap.

**Image Caption Generator**                    Jan -March 2021

Implemented Computer Vision and Natural Language Processing concepts to develop an Image Caption Generator that recognized the context of an image and described it in the English language using CNN and LSTM to implement the model.

For the completing stage of the project, my team implemented Transfer Learning which reduced the work of extracting meaningful features from the image and then fed it to the LSTM model to generate captions for the images.

**Obstacle Detection and Avoidance robot(IoT)**                    Feb-June 2021

Using Arduino UNO and sensors, we prepared a model for detecting obstacles and avoiding collisions by using code written in C++.

Deployed four rotors and two motors and used Infrared Sensors to echo signals from the motor to the object in front.

Developed a Bluetooth module using the MIT App Maker to facilitate the movement of the robot manually as well.

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# CO-CURRICULAR ACTIVITIES

**Member of Cybersecurity Team at Illinois Tech**

- Active member of this Tech team and I participate sincerely in CTFs.
- preparing for Hivestorm(a digital forensics competition) and CyberForce(network defence competition offered by US Department of Energy)
- Practice attacks against machines hosted on websites such as TryHackMe

**Member of Illinois Tech E-Sports Community**

- Belonging to the top 7% of the Valorant competitive community, I lead a team of Valorant players who possess Overwhelming reflexes and decision-making in game which on winning awards a higher rank.
- Conduct events for new games that are released in America like Overwatch 2.
- Practice on weekends for competitive games with other university representatives.

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