

# Sachit Ravikumar

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## EDUCATION & QUALIFICATIONS

University of Bristol, **MSc Robotics**

September 2023 – September 2024

**Grade: Distinction(Projected)**

*Modules included: Robotics Systems, Robotics Fundamentals, Machine Vision, Intro to AI, Assistive Robotics, Human-Robot Interaction, Bio-Inspired AI*

Anna University, India, **B.E. Computer Science & Engineering**

August 2019 – May 2023

**Grade: First Class with Distinction – GPA 8.8**

*Modules included: Database Management Systems, Machine Learning, Artificial Intelligence, Data Analytics, Probability & Statistics, Linear Algebra and Applied Calculus, Software Engineering Concepts*

## PROJECTS

### Autonomous Rendezvous, Docking, and Berthing in Space

- Designed an autonomous docking system with advanced controls and sensors, with safety system in a **Gazebo-ROS** simulation for space missions, achieving 97% accuracy in trajectory planning, using **Python** and **C++**

### Innovative Approach to Indoor Spatial Understanding

- Enhanced functionality of bump sensor in Pololu Robot for room dimension analysis and indoor navigation in robotics, employing algorithms developed in **embedded C** using **Arduino** to estimate contact angles, with **95%** accuracy

### Apple Counting in Orchards

- Developed **computer vision** algorithms using **Python**, **OpenCV**, and **TensorFlow** to automate apple counting, enhancing yield estimation and harvesting efficiency
- Applied **CNNs** and **R-CNNs** to achieve accurate fruit detection resulting in **82%** accuracy by collaborating with a team to integrate advanced camera systems for comprehensive data acquisition

### Metaverse-induced E-Commerce Web Application

- Developed and enhanced an e-commerce web application with Metaverse features to simulate an in-store environment, using **Blender**, **AI**, **Cryptocurrency**, **Three.js**, **Blockchain**, **HTML**, and **CSS**

**Other Skills:** C#, Machine Learning, MATLAB, Flask, SQL, React, JavaScript, Java

## PROFESSIONAL EXPERIENCE

TCR Innovation, India, **Front End Developer Intern**

January 2022 – March 2022

- Designed and developed **responsive websites** with user-centric **UI**, boosting user clicks by **30%**. Gained experience in intuitive interface design, focusing on **usability** - key for developing control and monitoring platforms.

XRBit, India, **AR Intern**

April 2021 – April 2022

- Implemented Augmented reality-based web applications depicting the historical and cultural heritage of India using **Three.js**, reaching **2000** visitors on average
- Developed an application based on **AR** using **Unity**, **C#** and integrated it with **Android Studio**, benefiting the education of special needs individuals across three autistic schools

### Freelancing

March 2019 - October 2023

- Designed social media content for clients on Instagram and YouTube, promoting economics education over **1M** viewers, and boosting followers by **40%** for a mental well-being campaign
- Developed expertise in **content creation** and **data analysis**, which aligns with creating instructional materials and diagnostics interfaces

## EXTRA-CURRICULAR ACTIVITIES

- Led the design and launch of **Augmented Reality**-based educational application impacting at least **25 specially abled students**, and showcased prototype to All-India Council for Technical Education
- Coordinated and organized a team of 12 within Commoners, a **social service** community, aimed at providing assistance to orphanages and child-care homes
- Presented paper titled "Metaverse Induced E-Commerce Website" at **ICoNIC 2K23** (6th International Conference on Intelligent Computing) and secured **publication** in **Scopus-indexed journal**