



Chinchole Tushar Raju
UG (IV Year I Semester)
B.Tech. (Computer Science and Engineering)
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Registration No: 21114032/2025



Area of Interest

Software Development, DSA, Robotics, Machine Learning.

Education

Year	Degree/Examination	Institution/Board
2024	B.Tech. 3rd Year	Indian Institute of Technology, Roorkee
2020	Intermediate (Class XII)	Rajarshee Shahu College of Arts and Science, Mangrul, Chikhli
2018	Matriculate (Class X)	RKVC, Chikhli

Internships

Software Development Engineering Intern | Zinnia May 2024 - July 2024
• Worked on OracleDB , Jira , Lang chain , VectorDB , Conf , AWS , KONG , Postman and QAS Projects .
Technical Freelancer Intern | GradesBuddy April 2024 - May 2025
• Worked on multiple technical and non-technical tasks to deliver quality work.

Projects

Auto Triaging | Zinnia, Pune June - June 2024
• LangChain, Vector-DataBase, ChromaDB, Embeddings, OpenAI.
• Created an auto-triaging solution for the HBC team to allocate the Ticket by using previous data and vector embeddings.
Cert Notification Automation | Zinnia, Pune June - July 2024
• AWS , Cryptography , Postman , Lambda-handler , Webhook , KONG .
• Automation for sending an early expiring certificate reminder on Slack channel by creating a lambda function on AWS and fetching cert data from KONG using cURL.
VR-Based Serious Game Using EEG Signal Controls | CSE Department , IIT Roorkee Aug 24 - May 2025
• Unity, C#, XR Interaction Toolkit, Oculus SDK, Meta Quest 2, Universal Render Pipeline (URP), OpenBCI/NeuroSky EEG Integration.
• Developed immersive VR-based serious games for therapeutic rehabilitation with Balloon Shooter targeting cognitive and motor function training. Integrated EEG brain-computer interface for accessibility, enabling patients with limited mobility to control gameplay through neural signals for neurofeedback therapy.
Cross-Word Generation Using Hugging Face Transformers | CSE Department, IIT Roorkee March - April 2025
• Python, Transformers, Hugging Face, GPT-2, JSON, Argparse
• Developed an AI-powered crossword puzzle generator and solver using transformer models that creates interactive puzzles with customizable difficulty levels and automatically generates contextual clues.
Applying Reinforcement Learning on Mario Game | CSE Department, IIT Roorkee January - April 2023
• Reinforcement Learning, Basic Game Development.
• Applying Reinforcement Learning on the Mario Game for the LBP project
Car Pooling | CSE Department, IIT Roorkee January - April 2023
• React, Firebase Auth, Firestore
• Enabled data-driven connections, provided secure authentication and storage, facilitated efficient path planning, and improved customer matching.
Inter IIT JLR Robotic Charging Arm | Inter IIT'23 January - February 2023
• MuJoCo physics engine, MATLAB, ROS, Gazebo
• Developed precise path-planning algorithms, determined optimal mounting height, showcased data-driven Software development, and provided efficient solutions for JLR's Robotic Charging Challenge.
8 DOF Robotic Arm Trajectory Planning | ArIES, IIT Roorkee February 2023
• MuJoCo physics engine, MATLAB, ROS, Gazebo, Python, Inverse Kinematics
• Developed precise path-planning algorithms, determined optimal mounting height, showcased data-driven Software development, and provided efficient solutions for JLR's Robotic Charging Challenge.
Differentially private synthetic medical data generation using C.GANs | CSE Department
• C-GANs, ML, Python.
• AI project, differentially private synthetic medical data generation using convolutional GANs

Building Model using Data Mining for Business Improvement CSE Department, IIT Roorkee	January - April 2025
<ul style="list-style-type: none"> Python, Pandas, NumPy, Scikit-learn, Matplotlib, Seaborn, NLTK, KMeans Clustering, FP-Growth Algorithm Analyzed 50,000 Airbnb listings using data mining techniques, including clustering, sentiment analysis, and frequent pattern mining to identify customer preferences and optimize pricing strategies. It increased revenue by 15% . 	
Model Development for calculating interest factors in the cash flow diagram, Under Professor P.K.Jha Sir IIT Roorkee	March 2023 - May 2023
<ul style="list-style-type: none"> HTML, CSS, Javascript, Machine Learning Developed analytical model for financial analysis, implemented accurate calculations, showcased data visualization skills, and demonstrated software proficiency in engineering economy concepts. 	
Design and implementation of an assembler for the SIC/XE CSE Department, IIT Roorkee	March 2023 - April 2023
<ul style="list-style-type: none"> System Software, C++, file-handling techniques Engineered efficient two-pass assembler, automated program file generation, demonstrated deep understanding of low-level programming, contributed to software development for intricate systems, showcased proficiency in challenging environments 	
Drone Swarming Simulation ArIES, IIT Roorkee	April 2023
<ul style="list-style-type: none"> ROS, Gazebo, MATLAB Designed scalable software for drone swarming, analyzed data for safe drone movement, developed a user-friendly tablet interface, and showcased simulation and robotics expertise. 	
Assignment Hub CSE Department, IIT Roorkee	July 2022 - November 2022
<ul style="list-style-type: none"> Figma (UI design), Kotlin (Android app development), Android Studio, Google Firebase (data storage) Simplified assignment tracking for educators, designed visually appealing UI, implemented an efficient app using Kotlin and utilized Firebase for data storage. 	
Design and Simulation of 5-stage Pipelined Processor CSE Department, IIT Roorkee	July 2022 - September 2022
<ul style="list-style-type: none"> Computer Architecture, C++, Assembly language Developed high-performance 5-stage pipelined processor, minimized instruction cycles, managed data dependencies, showcased low-level programming proficiency, and optimized CPU efficiency. 	
Design and Implementation of Configurable Cache Simulator CSE Department, IIT Roorkee	September 2022 - October 2022
<ul style="list-style-type: none"> Computer Architecture, C++, Algorithm Design Led Developed a flexible cache simulator, optimized data retrieval, streamlined access with metadata, and showcased strong software skills. 	
GambitoR Website Development Gambitor, IIT Roorkee	August 2022 - October 2022
<ul style="list-style-type: none"> HTML, CSS, Javascript Designed and developed the official website for the IIT Roorkee National level exam, Gambitor, emphasizing web development and design skills. 	
Autonomous Navigation Bot Simulation ArIES, IIT Roorkee	May 2022 - July 2022
<ul style="list-style-type: none"> ROS, Gazebo, SLAM, LiDAR, Arduino Developed an autonomous navigation system, optimized data-intensive algorithms, and showcased strong skills in data analysis and robotics simulation. 	
Path following plant watering robot ECE Department, IIT Roorkee	April 2022 - June 2022
<ul style="list-style-type: none"> Arduino, Infrared line following sensor, C++ Developed path-following plant watering robot, enabled autonomous plant care, and showcased skills in hardware development, sensor integration, and automation. 	

Awards / Scholarships / Academic Achievements

- Gold In Top Gear Competition of Fluxus'23
- Gold in TechShila: Inter Bhawan Tech Meet '23
- Bronze Medal in Inter-IIT Tech Meet 2023
- Cleared Uber She++ Coding Round and was among the Top 75 participants.

Skills

Computer languages C++, Python.
 Software Packages Robotics Operating System, Arduino IDE, Raspberry Pi. Simulation Tools:- Gazebo, MuJuCo, Copliasim.
 Additional Courses Machine Learning - Concepts
 Languages Known English , Hindi , Marathi '

Positions of Responsibility & Extra Curricular

Participant Syntax Error, SDS LABS, IIT ROORKEE	January 2022
<ul style="list-style-type: none"> Made a project in the hackathon, Simply ANPR. By leveraging Machine Learning, OpenCV, and Pandas, the Automatic Number Plate Recognition System was designed to track car entry and exit at gates. The system employs advanced computer vision algorithms to extract number plate information, enabling seamless monitoring and recording of vehicle movements for enhanced security and administration. 	
Participant Google's, Pathways To Google Program 2023	May 2023 - June 2023
<ul style="list-style-type: none"> Gained valuable coding insights and enhanced technical skills through Google's Pathways program Received guidance on interview preparation and recruitment processes, boosting confidence for future career opportunities 	
Participant Google's, Pathways To Google Program 2024	June 2024 - July 2024
<ul style="list-style-type: none"> Expanded programming knowledge and technical expertise through participation in Google's Pathways initiative Acquired strategies for successful interviewing and navigating hiring procedures, enhancing readiness for upcoming 	

professional prospects

- Gained insights into corporate technological practices and workplace culture, broadening understanding of the professional environment

Participant | eYRC 2022, Eyantra IIT Bombay

- Participated at IIT Bombay Techfest ,

September 2023 - October 2023

- Used and Learned Simscape for the simulation, LQR control, pole placement controls, and lagrangian dynamics.

Executive Member | ArIES, IIT Roorkee

June 2022 - Present

- Involved in various projects in the Robotics vertical, particularly in the fields of Robotics and ROS.
- Also organized various workshops, and participated in various competitions. Hackathons based on Robotics, AI, ML, and Drones.

Executive Member, Social Media | Outreach Cell, IIT Roorkee

June 2022 - Present

- Currently involved in IIT Roorkee Outreach cell Social Media Vertical, handles all the social media accounts and connections of the cell with the public and followers. Conducted national level exam, GAMBITOR handled contacts with sponsors, clients, and students with a team of 50 members.

Associate | Placement and Internship Cell, IIT Roorkee

October 2022 - Present

- Served as an Associate at PIC. Invigilated Tests and interviews during the internship and placement season in 2022.

Executive Member, Events | Social Summit, NSS IIT Roorkee

March 2022 - Present

Carried out various events in Social Summit 2022 with the team. Handled sponsorships teams and public relations during the social summit event

References

R. Balasubramanian

Professor

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Partha PratimRoy

Associate Professor

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