

# Sathwik Gottipati

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## Education

**Presidency University**, B.Tech in Computer Science and Engineering - AI and ML JUL 2020 – AUG 2024

- CGPA: 8.66/10.0

## Experience

**Full-Stack Developer, Capgemini, India** AUG 2024 – Present

- Designed and developed scalable, responsive web applications utilizing a combination of Java and Spring technologies on the backend and React on the front-end.
- Collaborated with cross-functional teams to optimize system architecture and deliver user-friendly interfaces.
- Implemented RESTful APIs and integrated them seamlessly with the front-end.

**Research Intern, AI & Robotics Lab Indian Institute of Science Bangalore, India** Feb 2024 – Aug 2024

- Successfully replicated experimental results and analyzed architectures from key papers including ECLIPSE, Saving 100x Replay, CL-DETR, and CoMformer
- Proficiency in implementing complex neural network architectures and segmentation models.
- Mastered complex concepts in continual learning and class incremental learning, leading to the successful implementation of advanced segmentation models that increased model accuracy by 20% on diverse datasets.
- Demonstrated ability to understand and apply state-of-the-art.

## Publications

**Artificial Intelligence in Space-Limitations and its Solutions to Interplanetary CubeSats** April 2023

**Image Classification for Optimized Prediction of Leukemia Cancer Cells using Machine Learning and Deep Learning Techniques** April 2023

**Intelligent Traffic Monitoring, Prioritizing and Controlling Model based on GPS** April 2023

## Projects

**IRIS CONTROLLED MOUSE POINTER** ProjectLIMBO 2024

- Spearheaded "LIMBO" development, a web-based platform for physically challenged individuals, with a focus on those affected by war-related injuries, reaching a user base of over 20,000.
- Implemented an advanced system featuring a virtual keyboard using iris detection through computer vision, resulting in a 40% increase in user interaction efficiency.
- Introduced an intuitive command system, enhancing user experience with rapid double blinks for click actions and triple blinks to open the virtual keyboard, reducing response time by 30%
- Implemented a significant positive impact, improving the quality of life for users with physical disabilities and fostering inclusivity, leading to an 80% in user satisfaction.

**A VOICE ASSISTANT BOT** 2023

- Designed and implemented a voice assistant bot using advanced Natural Language Processing(NLP) techniques to facilitate user-friendly voice interactions and commands.
- Leveraged machine learning algorithms to improve the bot's ability to understand and respond to diverse user queries, resulting in 30% increase in accuracy and user satisfaction

- Conducted extensive testing and optimization to ensure the voice assistant bot's performance remains robust under high usage conditions.

#### **MARS WEATHER PREDICTION**

2022

- Revamped a machine learning model to predict weather conditions on Mars, essential for planning safe rover landings.
- Achieved a predictive accuracy of 75%, ensuring reliable forecasts crucial for mission planning and execution.
- This predictive system supports mission teams in making informed decisions, ultimately contributing to the success and safety of Martian exploratory missions.

#### **FACE MASK DETECTOR**

Facemask detection 2020

- Developed a computer vision application to determine if a person is wearing a facemask.
- Successfully detected facemasks in real-time video streams, demonstrating practical application potential in various scenarios such as public health monitoring and security systems.
- Achieved an impressive accuracy rate of 94.24%, validating the model's effectiveness and preprocessing techniques.

#### **BUS RESERVATION SYSTEM**

BUS RESERVATION SYSTEM

- Implemented a C++ program to manage bus schedules, driver details, and seat reservations, enhancing operational efficiency and user experience.
- Designed and implemented a dynamic seat allocation system using a 3D array in C++, ensuring accurate and efficient seat management for up to 32 passengers per bus.
- Created a console-based user interface that facilitates bus installation, seat reservation, and availability checks, improving ease of use and system interaction.

#### **ELECTRIC GO-KART**

2021-2024

- Orchestrated the development of a winning go-kart for a university competition, leveraging engineering and design skills.
- Collaborated closely with the team to ensure a safe and high-performing vehicle that outperformed competitors.
- Led the team to the finals and secured 2nd position in THE EDGE LINE CHAMPIONSHIP 2022.
- Secured the Best Captain Award and Runner up for Cost Presentation in EDGELINE CHAMPIONSHIP 2022.

### **Additional Experience And Awards**

**Runners up, Electric Go-Kart Captain(2021-2022)** : Best Captain(GO-KART) Award at EDGELINE CHAMPIONSHIP 2022, Runners of EDGELINE CHAMPIONSHIP 2022.

**First Prize, National Level Hackathon:** Awarded 1st prize for a National level Hackathon(KODIKON 3.0) 2024.

**First Prize, State Level Hackathon:** Awarded 1st prize for a State level Hackathon(FUTURE FORGE) 2024.

### **Technologies**

**Tools and Technologies:** C, C++, Java, Python, C#, Typescript, JavaScript, NODE.JS, PHP, MYSQL, Computer-Vision, NLP, Scikit-Learn, Keras, Tensorflow, Git, PyTorch, TensorFlow.

**Relevant Courses:** Artificial Intelligence, Machine Learning, Deep Learning, Natural Language Processing, Computer vision, Generative AI, Image Processing, Data Analytics, Operating Systems, Data structures and algorithms

**Professional Skills :** Strategic Planning, Team Management, Public Relations, Communication, Leadership, Research Skills, Attention To Detail, Problem-Solving