

# PRATHAP SELVAKUMAR

prathap.selvakumar@postgrad.manchester.ac.uk, +44 7707 958007, [LinkedIn](#), [Portfolio](#)

## Personal Profile

Engineering graduate currently pursuing an MSc in Robotics at the University of Manchester, with a strong foundation in design engineering, systems development, and manufacturing-focused problem-solving. Experienced in taking technical solutions from requirements capture through implementation, testing and optimisation in both academic and industrial environments. Proven ability to collaborate across teams, improve system efficiency, and deliver robust engineering solutions. Seeking a graduate design engineering role where I can contribute to product development continuous improvements, and sustainable innovation.

## Education

2025-2026                      **The University of Manchester**  
   **MSc Robotics**

- Designed and deployed robotic systems using ROS2, Python, and computer vision, achieving 95% navigation accuracy on Leo Rover robots.
- Collaborated in a five-member team to troubleshoot and calibrate control algorithms, cutting positional drift by 20%.

2020–2024                      **SRM Institute of Science and Technology**  
   ***Bachelor of Technology in Computer Science and Engineering***  
   Graduated with First Class with Distinction — CGPA: 8.49 / 10

- Applied AI, Machine Learning, and Data Science methods to complete six applied research and development projects.
- Built an AI-based image recognition system for automation, increasing classification accuracy by **12%** and reducing manual verification time by **25%**.

## Relevant Experience

08/24 – 05/25                      **C-Square Info Solutions (Subsidiary of Reliance Retail)**  
   **Software Engineer**

- Built and optimised ERP web applications for a pharmaceutical business using **React.js** and **Node.js**, digitalising operations across **8 departments** and cutting processing time by **35%**.
- Re-engineered more than **50 static APIs** into dynamic, modular endpoints, eliminating **1,000+ redundant code lines per report page** and improving scalability by **40%**.
- Refined front-end architecture with reusable React hooks and context APIs, increasing interface responsiveness and maintainability by **25%**.
- Coordinated seamless data flow between backend and frontend, which shortened report generation time from **15 minutes to under 5 minutes**.
- Strengthened database queries and implemented secure RESTful API authentication, resulting in a **30% gain in data retrieval speed**.

12/23 – 01/24

**National University of Singapore**

***Global Academic Internship Programme (GAIP) — Big Data Analytics using Deep Learning***

- Directed a team of **4 interns** to deliver a deep learning project, Secured a final project score of **44/50 (Grade A, 74%)**.
- Trained and fine-tuned neural networks on large-scale datasets, enhancing model precision by **15%**.
- Implemented data visualisation dashboards using Python libraries (Matplotlib, Seaborn), reducing analysis time by **25%**.
- Conducted statistical evaluation of real-world datasets, achieving **90% model consistency** across testing cycles.

02/24 – 04/24

**Qentelli Solutions Private Ltd.**

***AI/ML Intern***

- Designed and deployed TensorFlow-based automation models, reducing manual task effort by **40%**.
- Processed and optimised training data of over **100,000 entries**, improving data quality and pipeline speed by **35%**.
- Evaluated multiple models and achieved **92% accuracy** on predictive classification tasks.
- Supported integration of models into live production APIs, increasing operational efficiency by **25%**.

## **Additional Skills**

- **IT: Programming & AI/ML Tools:** Python, ROS2, TensorFlow, OpenCV, Node.js, React.js, MATLAB, Pandas, AWS SageMaker
- **Data & Analytics:** Big Data Analytics, Deep Learning, Data Visualization, Excel (advanced functions, pivot tables)
- **Software & Productivity:** Microsoft Office Suite (Word, Excel, PowerPoint), Git/GitHub, Jupyter Notebooks
- **Other Skills:** Robotics simulation, sensor integration, image processing, debugging, and algorithm design

## **Languages**

- **English** – Fluent
- **Tamil** – Native

## **Activities**

- Comparative analysis implementation of queuing songs in players using audio clustering algorithm - **IGI GOLBAL PUBLICATION**