

# Mohan Ram Shanmugam

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## ML Engineer

**Machine Learning Engineer** with over **7 years of experience** designing and deploying intelligent, data-driven applications that merge **AI, software engineering, and cloud technologies**. Skilled in building **end-to-end ML systems**, integrating model development with robust **backend and frontend architectures** using **Python, Node.js, React, and AWS**.

Experienced in **deep learning, natural language processing, and generative AI**—leveraging frameworks like **TensorFlow, PyTorch, and LangChain** to develop scalable and adaptive AI solutions. Proficient in deploying ML models into production using **CI/CD pipelines, containerization, and cloud-native tools**.

Driven by a passion for applying **data science and AI innovation** to create measurable business value. Recognized for combining strong engineering discipline with creative problem-solving to build systems that are **scalable, efficient, and future-ready**.

## Core Competencies

**Frontend Development** ReactJS, Redux, HTML 5, CSS, SASS, Bootstrap, JavaScript, Babel

**Backend Development** NodeJS, ExpressJS, Java, spring boot, GraphQL, WebSockets

**Database Management** MySQL, MongoDB, PostgreSQL, Amazon Redshift, ETL pipe, Redis

**Cloud Services and DevOps** Amazon Web Services (AWS – EC2, Lambda, S3, IAM, CloudWatch), Docker, Kubernetes, CI/CD (GitHub Actions, GitLab CI), Terraform, Azure

**Version Control & Collaboration** Git/GitHub, GitLab, JIRA, Confluence

**Machine Learning & Artificial Intelligence** Python, Scikit-learn, TensorFlow, PyTorch, OpenCV, Hugging Face, Transformers, LangChain, Generative AI (LLMs, Prompt Engineering, RAG Systems)

**Data Science & Analytics** Pandas, NumPy, Matplotlib, Seaborn, Power BI, Tableau, Feature Engineering, Model Deployment, Predictive Analytics

## Professional Experience

**TCS, India**

**Aug 2024 - Present**

**IT Analyst / C2, chennai**

As a Senior Developer, I contribute to the design, development, and deployment of scalable enterprise applications for **Bendigo and Adelaide Bank**, leveraging modern technologies and cloud-native architectures to deliver secure and high-performing solutions.

- Architect and develop full-stack applications using **ReactJS, NodeJS, Express, and TypeScript**, ensuring high code quality, maintainability, and performance.
- Implement **GraphQL APIs** to enable efficient, flexible, and structured data communication between frontend and backend services.
- Drive backend design decisions focusing on **modular architecture, API efficiency, and data integrity**, optimizing performance under complex business workflows.
- Utilize **AWS cloud infrastructure (EC2, IAM, S3, CloudWatch)** to ensure reliable deployments and robust environment management.
- Establish and maintain **CI/CD pipelines** for continuous integration and automated deployments, improving release velocity and reducing downtime.
- Collaborate closely with DevOps and QA teams to integrate monitoring, security, and automation best practices across development lifecycles.
- Apply machine learning insights to enhance data-driven decision-making within client-facing banking solutions.
- Recognized as a dependable engineering asset for delivering **mission-critical features** and ensuring system stability for one of Australia's leading financial institutions.

**Influx Integrated Solutions Pvt Ltd, India**

**May 2021 - Aug 2024**

**Associate Developer, Chennai**

- Built Interactive, user-friendly web applications using **ReactJS** including global store management using **Redux**.
- Worked on **WebSockets** and **Distributed systems** to enhance real-time communication and system reliability.
- Integrated data tracking for suggestive selling and upselling using **MoEngage, Rakt, and Google Tag Manager** which increased customer spending by more than 20%.
- Handled payment gateway integration including **Freedom Pay** and **Card Connect** to streamline transactions.

- Resolved **cross-browser compatibility issues** with different versions of browsers like Internet Explorer, Mozilla Firefox, Safari and Google Chrome.
- Implemented backend services using **NodeJS** designing clear and understandable **APIs**, integrating **MySQL** databases for robust data management, and using **Redis** for efficient caching
- Developed complete end to end web applications and deployed using **AWS**, **CI/CD pipelines** and version control tools like **GIT**
- Worked on various projects, including:
  - [evo.co](#) [Ticket Booking site].
  - Injinmanager [Conceptualized and built a CMX Management website from the ground up, overseeing data management for websites, mobile apps, and kiosks.].
  - [order.showplaceicon.com](#) [A Food and Beverages booking site].
- Engaged in all phases of the product life cycle, including **roadmap planning, design, coding, testing, deployment, and operational ownership**, ensuring a thorough and high-quality development process.
- Demonstrated excellent **interpersonal abilities, time management**, and team skills, working effectively under stressful environments to meet project deadlines.
- Shadowed my manager** to understand **leadership and project management** better, and **mentored junior developers** to foster their growth and development.

## Infosys, India

Apr 2019 - Feb 2021

### Systems Engineer, Chennai

- Actively contributed to the Walmart agile team for product development.
- Primary development in technologies including **React** and **NodeJS**.
- Participated in the design and architecture of new services and deployed using **Azure Cloud**
- Impacted the customer experience by implementing and ensuring the robustness of cutting-edge products used daily by people.
- Won **Best Employee Award** for overall performance in Q1 FY2020.

## Infosys, India

Dec 2018 - Apr 2019

### Systems Engineer Trainee, Mysore

- Learned **Python, MySQL, MERN Stack**, and **Agile** methodologies.
- Served as **Scrum Master** during project phase of training, I planned and coordinated a team of 5 in building an intuitive, error-free website (front and backend) using **MERN Stack**.
- Completed training as a **Top Performer**.

## DRDO (Defence Research and Development Organization), India

Nov 2016 - Jan 2017

### Intern Trainee, Chennai

- Gained foundational knowledge in GUI creation using Matlab.
- Developed a simple chat box application between two nodes using Xbee.
- Created a Matlab GUI for studying Ion interactions with electronics.

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## Certifications

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<a href="#">The Complete Prompt Engineering for AI Bootcamp</a> , udemy	Oct 2025
<a href="#">Introduction to OpenAI API &amp; ChatGPT API for Developers</a> , udemy	Oct 2025
<a href="#">System Expert (HLD and LLD)</a> , Algoexpert	Feb 2023
<a href="#">AWS Certified Solutions Architect Professional</a> , AWS	May 2022
<a href="#">AWS Certified Developer Associate</a> , AWS	Feb 2021
<a href="#">Microsoft Certified Azure Fundamentals</a> , Microsoft	Jan 2020
<a href="#">Python Bootcamp From Zero to Hero in Python</a> , udemy	May 2020
Infosys certified Global Agile Developer, Infosys	May 2020
Kaizen Robotics program (Beginner and Advanced), Lema Labs (IITM Research park)	Sep 2015

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## Education

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**International Institute of Information Technology Bangalore (IIIT Bangalore) & Liverpool John Moores University (LJMU)**, chennai, India, M.Sc. in Machine Learning & AI in ML & AI, Jun 2024 - Present

- I am taking up this course to understand advanced machine learning and deep learning techniques with a specific emphasis on generative AI, positioning for application in web development to enhance user experience.

**Agni College of Technology, Anna University**, chennai, India, B.E in ECE, (GPA: 7.6/10), Mar 2014 - Mar 2018

- Developed problem-solving skills through coursework in robotics and electronics, laying a strong foundation for understanding full-stack web development principles.

**Sri Sankara Vidhyashramam Matriculation Higher Secondary School**, chennai, India, Higher secondary in 12th, (GPA: 83.7%), Mar 2013 - Mar 2014

- Completed the Higher Secondary curriculum with a focus on Science and Mathematics, honing analytical and problem-solving skills.

**Suddhananda Vidhyalaya**, chennai, India, Highschool in 10th, (GPA: 10/10), Mar 2011 - Mar 2012

- Completed relevant coursework including Computer Science fundamentals, Mathematics, English Literature, and Physics.

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## Awards

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**Best Employee for the Q1 FY2020**, Infosys

**May 2020**

Received the Best Overall Performance Award for outstanding work.

**Walmart Hackathon 3.0 Winner**, Walmart (Infosys)

**Aug 2020**

Augmented Reality (AR) based app with interactive shopping experience for customers to be used within Walmart stores.

**Agni's Pride Award for the Best outgoing student for the Batch of 2018**, Agni College of Technology

**May 2018**

**Student President of the Department of ECE for the Academic year 2017-18**, Agni College of Technology

**Winner of Inter-college Hackathon**, Neyes technologies

**Jul 2017**

Build a website to ingest GPS data and show it on a map for live tracking

**Winner of Project Display Competition (IETE)**, Agni College of Technology

**Aug 2016**

Developed a wireless home automation system using IOT, enabling control of fans and lights through a mobile app.

**Winner of Clash of Kaizeners (IITM research park)**, Lema Labs

**Mar 2016**

Developed and programmed a Robot that follows a black line on a white surface and came up with innovative solutions on the spot to the challenges presented during the event.