

SAI ARVIND VS

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EDUCATION

University College Dublin, Ireland | Sept 2024 – Sept 2025

MSc Computer Science (2:1)

Key Modules: Software Engineering, Generative AI, Cloud Computing, Machine Learning in Python, Data Structures in Python, Data Programming with R, Big Data Programming, Information Visualization

KCG College of Technology, Chennai, India | 2020 – 2024

B.E Computer Science Engineering (2:1)

Key Modules: Object-Oriented Programming, Artificial Intelligence, Cloud Computing, Python, Probability & Queuing Theory, Data Structures, DBMS, Distributed Systems

PROFESSIONAL EXPERIENCE & PROJECTS

Freelance Software Engineer — University Cultural Event Ticketing Platform

- Designed and deployed a high-availability ticketing system supporting 5,000+ global attendees.
- Managed the full Software Development Life Cycle (SDLC), from requirement gathering to production deployment and live-site operations.
- Implemented secure checkout workflows and real-time ticket generation pipelines.
- Deployed infrastructure on AWS using EC2, Elastic Load Balancing, and Auto Scaling to maintain system stability during peak demand.
- Produced deployment documentation and operational playbooks enabling rapid service recovery and long-term maintainability.

LingoBridge — Multilingual Communication Platform

- Architected a scalable cloud-based backend using Java Spring Boot with emphasis on reliability and extensibility.
- Integrated Azure AI services with fallback logic to ensure uninterrupted runtime during API failures.
- Designed modular backend services optimized for low-latency communication.
- Applied automated testing using JUnit and Mockito to reduce post-deployment defects.
- Conducted technical validation and system testing under concurrent user scenarios.

Real-Time Visual AI Inference System

- Engineered a low-latency computer vision backend using C++ and CUDA to accelerate multimodal LLM inference on RTX 3050 GPUs.
- Built a responsive React.js + Vite frontend integrated through REST APIs.
- Resolved complex CORS, proxy, and client-server communication challenges.
- Optimized real-time webcam streaming using AbortController to manage high-frequency requests and eliminate race conditions.
- Performed end-to-end validation, documentation, and live-service simulation for system reliability.

Medical Assistant Chatbot (NLP & Sentiment Analysis)

- Developed a medical assistant chatbot with React-based user interface for enhanced usability.
- Implemented NLP pipelines using TensorFlow to interpret and respond to user queries.
- Integrated Transformer-based sentiment analysis and OpenAI APIs for emotion-aware responses.
- Designed maintainable deployment workflows and debugging documentation for long-term system support.

Software Engineering Academic Projects

- Developed a Patience Game using Java implementing object-oriented design and efficient data structure handling.
- Designed and implemented a Backgammon Game Engine using Java, focusing on game logic, modular architecture, and maintainable code practices.

TECHNICAL SKILLS

Programming Languages: Java (Proficient), Python (Advanced), JavaScript, C++, SQL

Frameworks & Backend: Spring Boot, Django, FastAPI, Flask, REST API Design, Socket.IO, JWT Authentication, OAuth 2.0 Principles

Frontend: ReactJS, HTML5, CSS

Databases: PostgreSQL, SQL Server, MongoDB

Cloud & DevOps: AWS (EC2, ELB, Auto Scaling), Azure AI, Docker, Git, CI/CD Principles

Engineering Practices: Object-Oriented Design, System Architecture, Automated Testing (JUnit, Mockito), Multithreading, Reliability Engineering, Live Service Monitoring

Methodologies: Agile/Scrum, Stakeholder Requirement Analysis, Data-Driven Design

CERTIFICATIONS

- Oracle — Oracle Java Foundations
- Java: Data Structures Certification
- Amazon Junior Certified Software Developer Professional Certificate (Expected March 2026)

- Lean Software Engineering
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ACHIEVEMENTS & LEADERSHIP

- **India Book of Records Holder (Technical Performance):** Recognized for a record-breaking performance of Mozart's Symphony No. 25, demonstrating discipline, synchronization, and technical excellence.
 - **Trinity College London — Grade 7 (Electronic Keyboard):** Advanced certification reflecting over a decade of structured musical training and technical mastery.
 - **Global Platform Scalability:** Independently scaled digital distribution reaching 500,000+ streams across 123 countries.
 - **Community Growth & Analytics:** Built and managed a global audience of 36,700+ users through data-driven content strategy.
 - **High-Impact Content Delivery:** Produced digital content achieving 107,000+ interactions and over 3,000 hours of engagement in 2025.
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ADDITIONAL INFORMATION

- Eligible to work in Ireland under student graduate permissions.
- Strong interest in scalable backend engineering, AI systems, and cloud-native application development.