

Shanmugapriyan Kalaiselvan

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EDUCATION

Nanyang Technological University, Singapore

Aug 2023 - May 2027

Bachelor of Computing in Computer Science

Modules Learnt - Data Science and Artificial Intelligence, Data Structures, Algorithm Design and Analysis, Operating Systems, Software Engineering, Databases

WORK EXPERIENCE

SAP

Full Stack Developer Intern (AI Topics)

Jan 2026 – May 2026

- Architected and developed AI-driven assistant workflows in SAP Joule for supply chain management, and LLM based orchestration to provide contextual decision support for shortage analysis and logistics
- Implemented Procedure Playbook feature for a key Microsoft use case, enabling dynamic selection and execution of automated tasks within Joule based on user prompts and comparing the outcomes with custom Scorecard feature.
- Explored and prototyped multi-agent orchestration, migrating LangGraph-based agent workflows to A2A protocol to enhance inter-agent communication and integration within Joule platform.
- Improved application robustness by implementing context limit handling for proposal generation and developed scripts for automated feature testing.

Nanyang Technological University – College of Computing and Data Science

Undergraduate Researcher – URECA

Aug 2024 – June 2025

- Developed a cybersecurity solution that leverages Natural Language Processing (NLP) and Machine Learning (ML) to detect phishing threats in real time through URL analysis.
- Implemented a hybrid BERT-CNN architecture in Python to analyze phishing URLs, capturing complex patterns that resulted in a 98.33% overall detection accuracy, optimized model performance to achieve a 99.32% specificity rate.

ACHIEVEMENTS

- Finalist in DSTA Brainhacks 2025 June 2025
- Placed top 6 in Easy x Vechain Singapore Hackathon Sep 2024

PROJECTS

Blockchain Development: Decentralized Web3 Uptime Monitoring Platform

Oct 2025 - Nov 2025

- Architected a decentralized monitoring system using Solidity, Hardhat and React, leveraging distributed validators to ensure 100% tamper-proof uptime data for critical web infrastructure.
- Engineered smart contracts for validator assignment, incident aggregation, and staking/slashing logic, ensuring 100% operational accountability through economic incentives.

Mobile App Development: TrueFind SG

May 2025 - Jun 2025

- Led development of TrueFind SG, an AI-powered e-commerce aggregator designed to combat counterfeit products, earning a Finalist spot at DSTA BrainHack 2025.
- Built core features like unified product search, AI generated authenticity scores, image-based verification, and real time crowd reporting, using React, Next.js, Firebase, and Expo for cross platform deployment.

Full Stack Development: BetterReads Website

Jan 2025 - Apr 2025

- Architected a MERN-stack platform using React, Zustand, and Express, integrating Gemini and Spotify API to deliver AI-driven review summarization and personalized reading playlists.
- Engineered secure full-stack infrastructure featuring JWT authentication, Socket.IO for real-time chat, and Cloudinary for scalable image storage, managing book via Open Library and NLB APIs.

Backend Development: Hospital Management System

Oct 2024 - Nov 2024

- Architected a CLI-based Hospital Management System in Java using Object Oriented Design principles (OOP), implementing secure role-based access control for multiple user classes
- Engineered robust data structures to automate patient management and appointment scheduling, optimizing the persistent storage of complex medical records and inventory via CSV-based data pipelines.

SKILLS

- **Languages:** C++, Python, JavaScript, TypeScript, Java, Solidity, HTML/CSS, SQL, C, Verilog
- **Tools & Frameworks:** React.js, Node.js, Express.js, Django, React Native, Tailwind CSS, MongoDB, Mongoose, Jupyter Notebook, Git, TensorFlow, PyTorch, MySQL, Figma, Web3.js, Ethers.js, Hardhat, AWS