

# Valliammai Valliappan

## Software Engineer

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### SUMMARY

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**Software Engineer** with expertise in **microservices, Golang, Kubernetes, and Docker**. At Dell Technologies, I built and improved catalog generation services to enhance system efficiency and scalability. I also patented an AI-driven solution for automating the breakdown of BSpec into epics and user stories, authorized under Dell/DellEMC Invention Disclosure. My skills also extend to **deep learning, machine learning, and data visualization**, which I leverage to make data-driven decisions. As a Merit Scholar in Computer Science, I am a committed and organized professional with a talent for innovative problem-solving.

### SKILLS

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- **Languages:** C++, Golang, Python, and Java (basic)
- **Databases:** SQL, MongoDB, Postgres, and NoSQL
- **Cloud & DevOps:** Kubernetes, Docker, Microservices, CI/CD pipelines, Kafka, Prometheus, ELK Stack, and Grafana
- **Cloud Services:** AWS S3 and AWS EC2
- **Web Development:** REST API, Streamlit, React.js, and Node.js
- **AI/ML:** Deep Learning, NLP, LLM, RAG, and AI Agents

### WORK EXPERIENCE

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#### Dell Technologies

Bangalore, India

#### Software Engineer 2

July 2024 - May 2025

- **Patented an AI-driven solution** for automating the breakdown of BSpec into epics and user stories, authorized under Dell/DellEMC Invention Disclosure
- **Optimized Whole Update Package Aggregation in Dell UpdatePackage Publisher** by implementing concurrency techniques, such as Go routines, reduced processing time from over 2 days to just 9 hours through which **81.25%** of performance enhancement is achieved.
- **Adapted the Dell UpdatePackage Publisher User Interface** to align with the Dell Design System by learning React and implementing the required changes within 2 weeks, improving UI consistency. And reduced 20% of waiting time in creation of profile management.
- **Developed a Chatbot for Dell Update Package Creation Services (DCS)** using Llama 3.2:3b and FIASS to handle repetitive customer queries, enhancing customer service efficiency. It reduced 50% of customer queries to be handled by the development team.
- **Built an Event Notification System** that aggregates new update packages within seconds, ensuring real-time updates. This involves kafka notification and http share watcher.
- **Designed an Altered Package Aggregator** to generate package XML for legacy Dell Update Package Creation (DUP), streamlining the packaging process.
- **Implemented Feature Flags** by deploying Flagger and integrating it into the enterprise catalog generator application, enabling dynamic feature control.
- **Tech Stack:** Golang, Microservice, Kubernetes, LLM, AI Agents, Feature Flags, React, Kafka, Grafana, LangChain, Distributed System, httpshare watcher, Postgresql, Python.

Graduate Intern

July 2023 – June 2024

- Contributed to the transition of Catalog generation service from **monolithic services to microservices**, enhancing scalability and maintainability. Specialized in containerization, improving application deployment and management using **Docker and Kubernetes**.
- Automated the transformation of **XSD files into POST API calls**, reducing manual workload and errors.
- **Developed an Error Audit Microservice** that captures errors occurring within microservices and sends real-time alerts to a **Teams webhook**, improving issue tracking and response time.
- **Tech Stack:** Golang, Microservice, Kubernetes, MongoDB, Automation, Logstash, Elastic search, Devops .

## EDUCATION

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Vellore Institute of Technology

Vellore, India

Master of Technology

June 2019 - Aug 2024

Major in Computer Science Specialisation in Data science;

Cumulative GPA: 9.69/10

## UNIVERSITY PROJECTS

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### Palm Leaf Letter Detection and Recognition

- Aims to digitize and decipher ancient palm leaf texts.
- Developed a project for palm leaf manuscript detection and recognition, achieving a 72% accuracy rate, utilizing techniques like CRAFT and VGGNet.
- **Tech Stack** : Python, Pytorch, VGGNet models, CRAFT

### Decentralised Music App

- The aim is to allow musicians and distributors to share details of rights and royalties for music tracks online. These smart contracts automatically license recordings and take payment each time they are played.
- **Tech Stack** : Node.js, Solidity, Ganache, Truffle, Blockchain

### Memory Assistance

- Utilizes advanced deep learning techniques for therapeutic applications
- Implemented a facial recognition project to assist patients with amnesia, incorporating interactive games and music therapy
- Achieved an 80% reduction in training time using Siamese network architecture
- **Tech Stack** : Python, Tensorflow, CNN models, Siamese Network, OpenCV, SQL

### Farm easy

- A website for farmers to share their machinery and sell their products directly.
- **Tech Stack** : Node.js, MongoDB, Agile methodology, Requirement gathering