U R Ayyappan Pillai

Full-Stack Developer | MERN Stack | Cloud Infrastructure

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Professional Summary

Results-driven Full-Stack Developer with hands-on experience building scalable web applications using the MERN stack. Proven track record of deploying production-ready applications serving 1M+ file operations on AWS and GCP, with expertise in containerization (Docker/Kubernetes) and CI/CD pipelines. Passionate about creating efficient, user-centric solutions with optimized performance and clean code architecture.

Technical Skills

- **Languages:** JavaScript, TypeScript, Python, C, HTML5, CSS3
- **Frontend:** React.js, Redux Toolkit, Tailwind CSS, Material UI, EJS
- **Backend:** Node.js, Express.js, Fastify, REST APIs, grammY
- **Databases:** MongoDB, Mongoose, MySQL, Firebase Firestore, Redis
- **DevOps & Cloud:** AWS (EC2, S3), GCP, Docker, Kubernetes, CI/CD, Nginx, PM2
- **Tools & Methods:** Git, GitHub, Postman, Figma, Agile/Scrum

Experience

Full-Stack Developer Intern, Brototype (Packapeer Academy), Trivandrum   2024 – 2025

- Completed intensive 6-month industry bootcamp focused on MERN stack, building 4+ production-ready full-stack applications under industry expert mentorship.
- Engineered a complete e-commerce platform with user/admin authentication (OTP, JWT), integrated PayPal payments, and RESTful API architecture using Node.js, Express, and MongoDB.
- Implemented industry-standard security practices including JWT token management, input sanitization, rate limiting, and secure session handling.
- Collaborated in Agile environment with daily standups, code reviews, and sprint planning to deliver projects on schedule.

Projects

ORCUBE - Property Rental Platform

- Developed scalable property rental web app using **React.js**, **Redux Toolkit**, **Node.js**, and **MongoDB** with secure JWT/OTP authentication.
- Integrated **Stripe** payments, **AWS S3** image storage, and interactive maps (**Mapbox/Google Maps**) for enhanced UX.
- Deployed via **Docker** on VPS with **Nginx** reverse proxy, **UFW** firewall, and automated email notifications via **Nodemailer**.

E-Commerce Platform (AnimusDigital)

- Built full-featured e-commerce platform with **Node.js**, **Express**, **MongoDB**, featuring user/admin dashboards, cart, wishlist, and order management.
- Integrated **PayPal** payment gateway and **Twilio** OTP verification; implemented coupon system and sales analytics dashboard for admins.
- Deployed on **AWS EC2** with **Nginx** reverse proxy, SSL certificates, and automated backup systems.

TG File Indexing Bot

- Architected a Telegram bot using **grammY**, Node.js, and MongoDB to index and retrieve files with sub-100ms search response times.
- Optimized MongoDB text indexing to handle **1M+ files** with efficient query pagination and caching strategies.
- Containerized with **Docker** and deployed on **Hetzner VPS** with 99.9% uptime reliability.

Telegram Bot Creator Platform

- Built a **Telegram bot** that enables users to create and manage their own custom auto-filter bots, using **TypeScript**, **Fastify**, and **grammY**.
- Architected centralized multi-bot management with **dynamic webhook routing**, isolated MongoDB databases per bot, and high-performance task queues.
- Implemented **Docker** containerization with **GitHub Actions CI/CD** for automated testing and zero-downtime deployments.

Certifications

Architecting with Google Compute Engine – Google Cloud | Coursera   2021
- Specialization in GCP infrastructure: Compute Engine, VPC networking, load balancing, and auto-scaling
- View Certificate

AWS Academy Graduate - Cloud Foundations – Amazon Web Services   2021
- Comprehensive training in AWS core services, cloud architecture, security, and cost optimization
- View Certificate

Education

B.Tech in Computer Science – Pathanapuram College of Engineering, Kerala   June 2018 – May 2022
- Core coursework: Data Structures, Algorithms, Database Management, Operating Systems, Computer Networks
- Developed multiple academic projects applying theoretical concepts to real-world software solutions