

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 understanding 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
<ul style="list-style-type: none">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