

# U R Ayyappan Pillai

## Full-Stack Developer

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### Technical Expertise

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- **Frameworks/Libraries** – Node.js, Express, React, Redux Toolkit, Mongoose, Tailwind CSS, Material UI
- **Languages** – JavaScript, TypeScript, Python, C, HTML, CSS
- **Database** – MongoDB, MySQL, Firestore
- **Other Expertise** – Git, GitHub, Postman, Docker, K8s, CI/CD pipeline, Redis, PM2, Figma, AWS, Firebase, Nginx, Telegram APIs, grammY, Agile Methodology

### Experience

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**Intern**, Brototype, Packapeer Academy, Trivandrum 2024 – 2025

- Successfully completed an intensive industry-led bootcamp, honing expertise in the MERN (MongoDB, Express, React, Node.js) stack under the guidance of industry experts.
- Built a fullstack web application with EJS, backend with Node.js, Express, and MongoDB.
- Ensured compliance with industry best practices and standards for secure token handling, mitigating potential security risks effectively.

### Projects

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#### TG File Indexing Bot

- Built a Telegram bot using **grammY**, Node.js, and MongoDB to index and retrieve files by name, including support for public channels and groups.
- Optimized performance for over 1M files with advanced MongoDB text indexing and efficient query handling.
- Enabled robust file/user management and ensured high-speed search and retrieval.
- Containerized the application using **Docker** for consistent deployment.
- Hosted the containerized application on a **Hetzner VPS**, ensuring reliable and scalable access.
- **GitHub**: [github.com/xqube/TelegramIndexbot](https://github.com/xqube/TelegramIndexbot)

#### E-Commerce Application

- Developed an **e-commerce web application** utilizing **Node.js**, **Express**, **MongoDB-Mongoose**, and **EJS**.
- Features include **user and admin signup/login with OTP**, **API integrations with PayPal and Twilio**, Cart and Wishlist, coupons and payment options, user and order management for admins, sales report for admins, and transaction history for users.
- Deployed on **AWS EC2** with **NGINX** web server.
- **GitHub Link**: [github.com/xqube/animusdigital](https://github.com/xqube/animusdigital)

#### Scalable Auto-Filter Bot Platform

- Architected a centralized **multi-bot management system** using **TypeScript**, **Node.js**, **grammY**, and **Fastify** with dynamic webhook routing and **MongoDB isolation per bot**.
- Engineered a **high-performance task queue** and **advanced file indexing with pagination**, enabling efficient file retrieval across hundreds of user-created bots.
- Implemented **Docker** for containerization and automated **CI/CD pipelines** (e.g., GitHub Actions) for streamlined testing and deployment.
- **GitHub Link**: [github.com/xqube/autofilter-bot-creator](https://github.com/xqube/autofilter-bot-creator)

## Online Room Rental Platform

- Developed **ORCUBE**, a scalable property rental web app using React.js, Redux Toolkit, Node.js, Express, and MongoDB.
- Implemented secure OTP/JWT-based user and admin authentication via **Firebase**; integrated **Stripe** for payments and **AWS S3** for image storage.
- Enhanced UX with interactive maps using **Mapbox** and **Google Maps**; enabled email notifications via **Nodemailer**.
- Deployed the application using **Docker** containers on a VPS, configuring **Nginx** as a reverse proxy and securing the system with **UFW**.
- **GitHub**: [github.com/xqube/orcube](https://github.com/xqube/orcube)

## Certifications

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### Architecting with Google Compute Engine

2021

- Google Cloud | Coursera
- Comprehensive specialization covering Google Cloud Platform infrastructure and services
- Expertise in deploying solution elements including network, systems, and application services on Compute Engine
- Skills in designing secure, scalable, and highly available cloud solutions on GCP
- **Credential**: [View Certificate](#)

### AWS Academy Graduate - Cloud Foundations

2021

- Amazon Web Services Training and Certification
- Comprehensive training in cloud computing concepts, AWS core services, security, architecture, pricing, and support
- **Credential**: [View Certificate](#)

## Education

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### Pathanapuram College of Engineering B.Tech in Computer Science

June 2018 – May 2022

- Achieved a comprehensive understanding of computer science fundamentals and advanced topics.
- Engaged in various projects and practical sessions to apply theoretical knowledge to real-world problems.