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PROJECT PORTFOLIO

Backend Automation for Video Post-Processing and Scalability

Company: airG (Video Streaming Service – watchpfl.com, quickclipstv.com)

Overview: Led the automation of video post-processing workflows for a streaming service, involving processing source files from cloud storage and uploading to AWS S3.

Technologies: Python, Node.js, AWS (Beanstalk, EC2, S3), MongoDB, Redis.

Challenges: The existing backend system struggled with high latency for uploading and processing video and image files with high server loads during peak usage.

Solutions: Implemented auto-scaling and caching strategies to distribute workloads efficiently, using Redis and Beanstalk to off load the video and assets for post-processing. Implemented messaging to provide progress status updates.

Outcomes: Improved video delivery speed for users, enabling real-time content updates. Resulted in optimizing system performance and significantly reducing response time, directly contributing to better user experience.

Details: Showcases automation in backend processes for media-heavy applications.

Automated CI/CD Pipeline for Video Streaming Platform

Company: airG (Video Streaming Service – watchpfl.com, quickclipstv.com)

Overview: Designed and implemented a CI/CD pipeline to streamline deployment of a high-traffic video streaming platform serving over 1 million users.

Technologies: Docker, Jenkins, GitLab, AWS (EC2, S3, CloudFront), Node.js, Python

Challenges: Manual deployments caused delays and introduced errors, impacting release cycles.

Solutions: Automated the deployment process using Jenkins for continuous integration, Docker for containerization, and GitLab for version control, with AWS for scalable hosting. Configured automated testing and rollback mechanisms.

Outcomes: Reduced deployment time by 40% and improved system reliability, enabling faster feature rollouts and workflow.

Details: Showcases automated process that streamlines the software development lifecycle, ensuring zero-downtime deployments.

Scalable Backend for Game and Video Content Management

Company: airG (Multiple Platforms – kittysnatch.com, unlimitedgamez.com, watchpfl.com, quickclipstv.com)

Overview: Architected and developed microservices-based backend systems for games and video streaming platforms, supporting over 1 million users.

Technologies: Node.js, Python, MongoDB, MySQL, Redis, AWS, React

Challenges: High user traffic caused performance bottlenecks in data retrieval and processing.

Solutions: Designed microservices for API server, user authentication, notifications, and payments, with optimized MongoDB/MySQL queries and Redis caching. Built a React-based content management system (CMS) for frontend teams.

Outcomes: Improved system performance by 30% and enabled seamless content management for global users.

Details: Showcase end-to-end solution that reduced content update time, enhanced user experience and scalability while ensuring robust security.

AI-Driven Code Generation and Prompt Tuning for Web Applications

Company: Outlier (AI training platform)

Overview: Trained generative AI models via prompt engineering to auto-generate full-stack web apps, focusing on automation of code evaluation and optimization. This involved tuning prompts for React/Next.js outputs to ensure clean, maintainable codebases.

Technologies: Next.js, React, TypeScript, JavaScript, AI prompt engineering.

Challenges: AI-generated code often lacked quality of similar fortune 500 grade web application.

Solutions: Developed evaluation strategies to refine outputs for functionality and UI/UX to produce high-quality, fortune 500 grade web application.

Outcomes: Produced production-ready apps, ensuring high functionality, UI/UX quality, and maintainable codebases.

Details: Illustrates modern automation through AI, ideal for innovative app development where efficiency is key.

CONTACT

For inquiries or to discuss your project, please contact me at jackdong1@outlook.com or (778) 388-9371. I look forward to bringing my software development expertise to your app idea.