# **Technical Writeups**

### **Security and Networking**

- Shift Left Strategy
- Mocks
- Integration Testing
- E2E Testing
- CI Integration
- Microservices Testing
- Test Data Management in Integration Pipelines
- Layered Test Abstractions with Pytest Fixtures
- Visual Regression Testing with Percy or Playwright
- Contract Testing with Pact (Consumer/Provider Flow)
- Mutation Testing for Test Suite Effectiveness
- CI/CD Integration with TestRail and JIRA using Webhooks
- Chaos Testing APIs with Fault Injection and Network Partitioning
- Test Sharding and Parallelization in Large Monorepos
- Flaky Test Detection with Historical Test Analysis
- Synthetic Monitoring and Canary Tests in Production

### Market Control of the Control of the

- REST vs GraphQL
- Multithreading vs AsyncIO
- Test Automation Pyramid
- API Contract Testing
- Clean Architecture
- Dependency Injection
- Design Patterns
- Git Internals

#### Cloud and DevOps

- Embedded Protocols
- RTOS Basics

- Device Drivers
- Interrupt Driven vs Polling
- Firmware Over The Air

## Frontend and UI/UX

- Kafka
- Feature Engineering
- Data Pipelines
- MLOps
- Recommendation Engine
- Vector Embeddings
- XAI Techniques
- XGBoost Internals