

Piotr Galka - Software Engineer

Expertise: Distributed Systems | .NET Development | Data Processing | Performance Optimization

Technical Skills

.NET Ecosystem: C# 12, .NET 8/9/10, ASP.NET Core, MediatR (CQRS), Clean Architecture **Databases:** MongoDB, Redis, Elasticsearch, ClickHouse **APIs & Real-time:** GraphQL (HotChocolate), REST, SignalR, YouTube API, Twitter API, Notion API **Infrastructure:** Docker, RabbitMQ, GitHub Actions, OpenTelemetry, Quartz.NET **Web Scraping:** Selenium WebDriver, yt-dlp, HTML parsing

Key Projects & Contributions

Twitter Explorer - Analytics Platform

Built distributed cache architecture with RabbitMQ synchronization across microservices - Created **new microservice:** DataManagement for distributed cache management - Implemented **event sourcing** for cache updates with CacheEvent tracking - Designed **async cache loading** with background workers, improving startup performance - Built **regional leaderboard system** for geographic analytics - Integrated **5+ external APIs:** Notion, Tria, Vooi, Lab, Superform with retry logic - Added **cache monitoring** with health checks and initialization tracking

Impact: Enabled real-time cache synchronization, reduced startup time, built scalable architecture

ArticlesEngine - Content Aggregation

- Implemented **GraphQL API** with HotChocolate for advanced querying
- Built **cryptocurrency keyword matching system** (TokenMatcher integration)
- Designed **hook system** for post-processing with XPath/RSS/SmartReader mappings
- Added rate limiting, HTML cleaning, and validation logic

Impact: Automated article collection from 100+ sources with intelligent crypto project detection



YouTubeEngine - Video Analytics

- Built **Elasticsearch integration** from POC to production for video transcription search
- Created **AI-powered content analysis** with internal LLM API integration
- Implemented **CI/CD pipelines** with GitHub Actions for automated deployments
- Added comprehensive **API monitoring** and tracking

Impact: Enabled full-text search across video transcriptions, automated AI analysis of crypto content

Twitter Engine - Data Collection

- Implemented **real-time filtered streams** for Twitter data ingestion
- Built **Twitter API Parser** for data transformation
- Created **Selenium-based followers fetching** with automation
- Added **Slack notifications** for monitoring and alerts
- Implemented **request tracking** and token management

Problem-Solving Highlights

Cache Architecture: Designed RabbitMQ-based distributed cache with event sourcing, solving cache inconsistency across service instances **Performance:** Implemented async cache loading, reducing application startup time significantly **Scalability:** Created separate microservices for cache management, enabling independent scaling

Impact & Scale

- Contributed to **4 production systems** processing **millions of records daily**
- Built **new microservices** for distributed cache architecture
- Created **cache event sourcing system** tracking all cache changes
- Implemented **Elasticsearch** enabling full-text search across internal post-processed data
- Designed **regional leaderboard** system for geographic analytics
- Integrated **5+ external APIs** with robust error handling
- Created **many CI/CD workflows** for automated deployments
- Optimized **application startup** with async background loading



Best Practices

Clean Architecture & CQRS patterns Event-driven architecture with domain events Distributed caching with RabbitMQ Unit testing with proper mocking OpenTelemetry for observability Docker containerization CI/CD automation



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