Jakub Jurkian

Java Backend Developer

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About Me

Computer Science student at the University of Gdańsk, building backend systems with **Java** and **Spring Boot**. I care about writing well-tested code I'd be comfortable handing off to someone else: I write critical logic in test-first approach and I document architecture decisions in ADRs. Seeking a Backend Developer or Software Engineering internship - available **now for 25–30 hours/week** and **full-time from 22 February 2027**, when my curricular internship semester begins. Open to continuing as a junior developer afterwards.

Technical Skills

Languages: **Java 21**+, SQL, Python, TypeScript
Frameworks & Testing: **Spring Boot 3**+, Spring Security, Hibernate/JPA, Testcontainers, JUnit 5, Mockito
Infrastructure & Databases: **PostgreSQL**, Redis, Liquibase/Flyway, Docker, GitHub Actions CI/CD, MongoDB
AI: LangChain4j, RAG (pgvector), LLM APIs (Claude, Gemini); AI-assisted development (Claude Code, Cursor)
Architecture & Practices: RESTful APIs, TDD, Architecture Decision Records (ADRs), Git, PR-based workflow
Also exploring: React, Node.js/Express

Projects

Fleet Management API (VeloCity) | ***Java 25, Spring Boot 4, PostgreSQL*** | **GitHub** | **Demo** 2026

- Built a Spring Boot REST API (plus a separate React/TypeScript client) for an e-bike rental platform, secured with a stateless JWT filter chain and a Redis-backed token blacklist for logout.
- Prevented double-booking at the database level with a PostgreSQL exclusion constraint (GiST over date ranges) mapped to HTTP 409, verified by a Testcontainers concurrency test.
- Modelled the reservation lifecycle as a domain state machine (30-minute confirmation window, scheduled expiry and completion) with @Version optimistic locking against lost updates; schema versioned with Liquibase.
- Wrote the BigDecimal pricing engine test-first; 60+ unit and integration tests run in GitHub Actions, and a deploy workflow ships the Docker image to an Oracle Cloud VM behind Caddy (HTTPS).

LLM Evaluation API (MockBean) | ***Java 21, Spring Boot 3, LangChain4j, pgvector*** | **GitHub** 2026

- Built a Spring Boot API that grades technical interview answers using an LLM as judge, in RAG (PostgreSQL + pgvector) or plain-prompt mode; Claude, Gemini or a local Llama 3.1 is selected via Spring profiles.
- Benchmarked 3 models × 2 modes on 40 labelled answers with bootstrap CIs: Claude reached 92.5% accuracy. Found and fixed a chunking bug that fed the judge bare questions as references; the remaining RAG gap traced mainly to score calibration.
- Every verdict is stored with its judge model, mode, retrieved reference and raw reply for auditing; schema managed by Flyway; tested with JUnit, Mockito and Testcontainers (pgvector).

E-Commerce Marketplace API (Grailkits) | ***Express.js, Keycloak, PostgreSQL/MongoDB*** | **GitHub** 2026

- Split a marketplace backend into four services (API Gateway, Catalog, Order, Review), each independently containerized.
- Secured it with Keycloak (OAuth 2.0 + PKCE): the API Gateway verifies JWTs against Keycloak's JWKS, passes the caller's identity from the verified token to the services, and rate-limits with Redis.
- Checkout locks stock rows (SELECT ... FOR UPDATE) and takes prices from the database, never the client, so it cannot oversell; PostgreSQL for transactional data, MongoDB for flexible product details and reviews.

Education

University of Gdańsk Gdańsk, Poland
B.Sc. Computer Science (Full-time) *2024 - Present*

- **Relevant Coursework:** Algorithms & Data Structures, Industrial Applications, Databases, Concurrent Programming, Web Application Security, Microservices Architecture.
- **Curricular Internship:** 540-hour mandatory internship that can start part-time now; the 6th semester (from 22 February 2027) has no classes, giving full-time availability.

IT Technical School (Maciej Rataj ZS) Reszel, Poland
IT Technician Diploma (Specialization: Administration and Programming) *2019 - 2023*

Languages

English: C1 - daily working language for documentation, code, and technical communication.
Polish: Native.

I agree to the processing of personal data provided in this document for realising the recruitment process pursuant to the Personal Data Protection Act of 10 May 2018 (Journal of Laws 2018, item 1000) and in agreement with Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016.