

# Nikolas Iliopoulos, BSc

Software Engineer  
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## Information

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## Experience

### Senior Software Engineer | [TÜV AUSTRIA](#) | 06/2024 – 11/2025

- Architected and delivered a client portal within an Agile framework, improving data accessibility for **1000+ concurrent users**.
- Applied **API standardization and modularization** that reduced cross-service communication overhead **by 20%** and improved developer onboarding time.
- Spearheaded architectural strategy and feature planning, implementing **horizontal scalability patterns** that allowed the system to handle **80% increase in traffic** without performance degradation.
- Maintained full-stack **ownership** using JavaScript/Typescript and Java Spring Boot and engineered multi-level Redis caching strategies that **reduced API response times by 45%**.
- Optimized system reliability by resolving complex technical debt and refactoring legacy dependencies to improve maintainability.
- Automated workflows using Docker, achieving **100% environment consistency** across development, staging and production.
- Engineered high-throughput ETL pipelines using Python and FastAPI, **increasing data processing speed by 70%**.

### Software Engineer | [Agile Actors](#) | 02/2022 – 06/2024

- Orchestrated a successful migration from a legacy monolith to a microservice architecture, deployed on **AWS EC2**, resulting in a **40% improvement in system uptime** and faster release cycles.
- Built a high-scale distributed web-crawler for data enrichment with Playwright, leveraging **AWS S3** for scalable storage of unstructured data.
- Integrated event-driven architecture using Kafka to process **5M+ messages monthly**, ensuring high availability.
- Maximized backend performance by implementing custom Spring Boot thread pools and multithreading, increasing concurrent **request throughput by 40%**.
- Automated delivery pipelines via Jenkins and Docker doubling deployment frequency, **reducing deployment time by 50% and enabling daily production releases**.
- Elevated code quality and narrowed bug leakage by implementing comprehensive unit testing with Spock.

## Education

### Bachelor's degree (BSc) in Computer Science | 10/2018 – 02/2023 | Grade: 7.36/10 ~ 3 GPA

National & Kapodistrian University of Athens, [Department of Informatics and Telecommunications](#)

**Key coursework:** Data Structures & Algorithms, Multithreading & Concurrency, System Programming, Compiler, Operating Systems

#### Notable Projects:

- **InvertedSearchEngine:** C++ Keyword Matching in documents. Optimized from 1395ms to 520ms using 5 threads.
- **Intermediate code LLVM creation** & **Compiler for MiniJava (subset of Java)**

## Skills

- **Languages:** Java, Python, JavaScript, TypeScript, SQL
- **Backend Frameworks:** Spring Boot, FastAPI, Node.js (Express)
- **Frontend Development:** React, Next.js, HTML5, CSS3
- **Distributed Systems & Middleware:** Microservices Architecture, Kafka, Redis (Caching & Pub/Sub), Event-Driven Design
- **Cloud & Infrastructure:** AWS (EC2, S3), Docker, Terraform, CI/CD (Jenkins, GitHub Actions)
- **Database & Storage:** PostgreSQL, MySQL, MongoDB, Elasticsearch, ETL Pipelines, Liquibase
- **System Architecture:** High-Availability (HA) Systems, Fault-Tolerance, Load Balancing, API Design (REST)
- **Testing & Observability:** Spock, Unit/Integration Testing, TDD, Prometheus, Grafana

## Projects

- **Algo Pulse:** A high-performance, interactive visualizer designed to demystify complex computational logic of algorithms, built with **Next.js** and **Typescript**. It combines **real-time data visualization and live code execution tracing**.
- **AI-Powered Property Management Email Assistant:** Built a **Python**-based AI system to automate property management emails, parsing tenant requests, generating **LLM-powered replies**, classifying intents (maintenance, lockout, rent) and creating workflow action tickets with **fully asynchronous IMAP/SMTP handling**.
- **Artificial Intelligence & Machine Learning Projects:**  
[Transformers](#) | [RNN with LSTM & GRU cells](#) | [FeedForward Neural Network](#)  
**Berkeley Pacman:** [Project 1](#) | [Project 2](#)  
Implemented depth-first & breadth-first, uniform cost, A\* search, multiagent minimax and expectimax algorithms, as well as designing evaluation functions.

## Languages

- Greek (Native language)
- English (Professional Fluency)