

Max Goren

Backend Software Engineer · Boston, MA

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SUMMARY

Backend Software Engineer with a proven track record of optimizing and scaling high-performance distributed systems. Proficient in Java and Spring, with deep expertise in database-intensive architectures and resolving complex production bottlenecks. Leverages strong foundations in low-level systems programming—including compiler and runtime design—to build resilient, well-tested backend services across the entire software development lifecycle.

TECHNICAL SKILLS

Languages: C, C++, Python, Java

Backend & Web: REST APIs with Spring Boot, Hibernate, and JPA; object-oriented design and design patterns

Systems & Embedded: language and compiler implementation; hardware–software interfacing in C (I2C, SPI, UART)

Databases: SQL (MySQL, MariaDB) Query optimization.

Operating Systems: Linux

Tooling & Deployment: Docker (containerized backend deployment), CMake, Git

EXPERIENCE

Backend Software Engineer

AES Corp · Peabody, MA 2022 – Present

- Collaborate with a cross-functional, international team to build award-winning software (AES INCC) for the fire alarm monitoring and control industry.
- Increased platform performance from 4,000 to over 40,000 concurrent subscribers by identifying and refactoring high-load database queries.
- Built a user-facing “self-monitoring” subsystem enabling direct integration of Fire Alarm Control Panels, developed in close response to user feedback.
- Led root-cause analysis efforts spanning backend services, network, and hardware components to resolve complex production issues.
- Work in conjunction with a hardware engineer to re-purpose existing proprietary hardware for new projects, leading to quicker development times and reduced production costs.

PROJECTS

MGCLex & MGCPGen — [mgclex](https://mgclex.com) | [mgcpgen](https://mgcpgen.com)

Generator tools for creating lexical analyzers and parsers for developing compilers. Work together to automatically produce tokenizers and parsers from regular expressions and context-free grammar.

Owlscript — github.com/maxgoren/owlscript

Dynamically typed, garbage-collected programming language exploring the fusion of functional and imperative paradigms.

libmgcjson & libmgcregex — github.com/maxgoren

Lightweight C libraries: JSON serialization/deserialization, and regular-expression pattern matching.

maxgcoding.com — maxgcoding.com

A long-running personal blog where I've published four-plus years of technical writing on compilers, algorithms, and data structures, aimed at making advanced computer science accessible to a broad audience.

EDUCATION

SUNY Plattsburgh — BA, Environmental Science 2010