

# HAMED MOHAMED ABDELALIM

Software Engineer | Node.js | React.js | Application Security

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## SUMMARY

Software Engineer with 1+ year of production experience building secure and scalable web applications using Node.js, React.js, PostgreSQL, and Prisma ORM. Served as the primary developer within a 3-member engineering team, contributing to systems supporting 2,000+ users and 300+ daily active users. Experienced in application security, backend modernization, automated testing, and CI/CD, including the remediation of 18 documented security findings and the migration of 25,000+ academic records. Open-source contributor to the NodeSecure ecosystem with 7 merged pull requests enhancing security analysis and software quality.

## EXPERIENCE

**Full-Stack Software Developer** · Artificial Intelligence and Digital Transformation Unit | Tokat Gaziosmanpaşa University | Tokat, Turkey

Apr 2025 – Jun 2026 (Hybrid)

- Acted as the Primary Developer within a 3-member engineering team, leading the development and delivery of a QR Attendance System using React.js, Node.js, PostgreSQL, and Prisma ORM.
- Developed and maintained production systems serving 2,000+ users with approximately 300 daily active users across 42 courses, 13 academic departments, and 6 faculties.
- Led backend modernization initiatives, including Prisma ORM migration, adoption of a Service-Oriented Architecture (SOA), and implementation of automated testing and CI workflows, contributing to 313 automated tests across 38 test suites.
- Conducted security assessments across multiple university systems and remediated 18 documented security findings related to authentication, authorization, CORS, XSS, JWT security, secure file handling, and secure application configuration.
- Developed and executed a production data migration solution that imported 25,019 academic records, including 14,100 course records, 50 faculties, and 259 academic programs.
- Optimized QR verification performance by redesigning the verification architecture, reducing average validation latency from 94.91 ms to 1.53 ms and increasing throughput from 10.54 req/s to 653.39 req/s through local-first processing and intelligent fallback strategies.
- Implemented resilience patterns using Opossum Circuit Breaker, enabling automated recovery and maintaining service continuity during remote verification failures and peak traffic conditions.

## OPEN SOURCE — NODESECURE ECOSYSTEM

Contributed 7 merged pull requests to the NodeSecure ecosystem (js-x-ray & scanner), enhancing application security analysis, detection coverage, and performance benchmarking.

- Introduced the sensitivity option (conservative / aggressive) across AstAnalyser, ProbeRunner, and SourceFile — enabling configurable detection depth without breaking backward compatibility. (merged PR #456)
- Built the insecure-random probe (flags unsafe Math.random() usage) and improved localhost/SSRF detection in the shady-url checker. (merged PR #452, #462)
- Added the Named Main Handlers pattern to isSerializeEnv, allowing probes to handle multiple validation scenarios; added direct process.env detection in aggressive mode. (merged PR #467)
- Implemented email literal collection using CollectableSet API in the isLiteral probe, with 5 comprehensive test cases. (merged PR #468)
- Built benchmarking infrastructure using mitata to track AST analysis performance baselines across releases. (merged PR #496)

## PROJECTS

**DragonSploit** — AI-Augmented Web Vulnerability Scanner | Graduation Project | 2025

- Designed and implemented a parallel SQL injection scanning engine covering 6 attack vectors, including in-band, blind, out-of-band, second-order, and stacked-query detection techniques, with advanced WAF evasion and payload obfuscation capabilities.
- Engineered a hybrid AI-powered security workflow using Ollama and Gemini with automatic provider failover, Redis-backed caching, and Playwright-based visual verification that captures screenshots, HTML snapshots, and video evidence to validate findings.

## EDUCATION

**B.Sc. Computer Engineering** · Tokat Gaziosmanpaşa University, Turkey

GPA: 3.5 / 4.0 · Coursework: Data Structures, Algorithms, Databases, Operating Systems, Cybersecurity

## SKILLS

**Languages:** JavaScript (ES2022+), TypeScript, Python, SQL

**Frontend:** React.js, Redux, Tailwind CSS

**Backend:** Node.js, Express.js, REST APIs, PostgreSQL, Prisma ORM, Redis, MongoDB

**Application Security:** SAST/DAST, Threat Modeling, Secure SDLC, OWASP Top 10, Vulnerability Assessment, JWT Security

**DevOps & Testing:** GitHub Actions, CI/CD, Docker, Jest, Automated Testing