

# Kevin George Leo

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## SUMMARY

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Security researcher and software engineer with 2+ years of industry experience and active research in web security, JavaScript runtime differential testing, and vulnerability disclosure. Skilled in Python, JavaScript, and automated testing pipelines. Experienced in responsible disclosure with 6 CVEs and 1 GitHub Security Advisory. Pursuing MSc Computer Science at Saarland University with a GPA of 1.5.

## WORK EXPERIENCE

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### Hilfswissenschaftler (Research Assistant)

May 2024 – Present

*CISPA Helmholtz Center for Information Security*

*Saarbrücken, Germany*

- Conducted security research in the web domain using differential testing of JavaScript runtimes including Node.js, Deno, and Bun.
- Designed and implemented an automated testing pipeline in Python to execute test suites across multiple runtimes and post-process results for vulnerability detection.
- Reported and responsibly disclosed security bugs to runtime maintainers via GitHub Issues.
- Built a proof-of-concept UI deception attack leveraging Progressive Web Apps (PWAs) on V8-based browsers using HTML, CSS, and JavaScript to demonstrate real-world impact.
- Developed an automated Playwright-based framework to simulate user authentication flows in 2FA-based environments.

### Programmer Analyst

Aug 2021 – Sep 2023

*Cognizant Technology Solutions*

*Kochi, India*

- Worked as a Production Support Engineer on a health insurance data warehousing project, supporting business-critical ETL pipelines.
- Monitored, triaged, and resolved production incidents following structured incident response workflows, using ServiceNow, Linux shell scripting, IBM DataStage, and SQL.
- Conducted Root Cause Analysis (RCA) as part of post-incident review, identifying systemic failures and preventing recurrence.
- Implemented remediation and preventive controls to improve pipeline reliability and reduce incident volume.
- Prepared incident reports and SLA documentation; communicated incident status, risk assessments, and resolutions to technical and business stakeholders.

## EDUCATION

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### University of Saarland

Oct 2023 – Present

*MSc Computer Science*

*Saarbrücken, Germany*

- GPA: 1.5 (German scale)
- Relevant Courses: Security, Web Security, Human Computer Interaction, Data Networks, Software Engineering
- Completed CTF (Capture the Flag) challenges in Web Security coursework, covering topics such as [XSS / SQLi / CSRF / UI Deception]

### Rajagiri School of Engineering and Technology

Jul 2017 – Jun 2021

*Bachelor of Technology, Computer Science and Engineering*

*India*

- GPA: 9.29 / 10

## PROJECTS AND THESIS

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### Master Thesis: Study on Cross-Runtime Bug Transference and Robustness of Fixes

2026

- Developed an automated pipeline using LLMs to generate proof-of-concept (PoC) exploits from GitHub issue reports.
- Executed PoCs across multiple JavaScript runtimes to detect behavioral divergences and recurring bugs.
- Evaluated the impact of runtimes on vulnerable npm packages and their execution behavior.
- Designed AST-based mutation techniques to test the robustness of vulnerability patches.
- Discovered 141 bugs, of which 127 are confirmed (110 previously unreported) across major JavaScript runtimes.

- Uncovered 57 weak security fixes in npm packages; responsible disclosure resulted in 6 CVEs (CVE-2026-25521, CVE-2026-25047, CVE-2026-26021, CVE-2026-27212, CVE-2026-28491, CVE-2026-33864) and 1 GitHub Security Advisory (GHSA-gcrg-hrj9-ggqg).

### **Chemical Structure Drawing Tool**

Jan 2020 – Dec 2021

- Developed a web-based exam platform for high school students with an integrated chemical structure drawing tool.
- Built using HTML, CSS, JavaScript, PHP, and SQL; developed solution for representing and evaluating chemical structure data using Python and SQL.
- Managed all stages of the Software Development Life Cycle (SDLC); documented project using LaTeX.

## TECHNICAL SKILLS

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**Languages:** Python, JavaScript, PHP, SQL, C, C++, R, Unix Shell

**Web Technologies:** HTML, CSS, Node.js, Deno, Bun, Progressive Web Apps (PWA)

**Testing & Automation:** Playwright, Differential Testing, AST Mutation (Acorn, Estraverse)

**Security Tools:** Autopsy, Hashcat

**Developer Tools:** Git, Linux, Figma, LaTeX, OpenAI API, IBM DataStage, ServiceNow

**Databases:** SQL

**Other:** MS Office, LLM-based automation pipelines

## NON-TECHNICAL SKILLS

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Analytical Thinking, Problem Solving, Written and Verbal Communication, Team Collaboration, Self-Initiative

## LANGUAGES

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**English:** C1 (Professional Working Proficiency)    **German:** A2 (Elementary)