

Shan LIU - Software Engineer

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Language skills: English, Chinese, Japanese

ABOUT ME

Software Engineer with 6 years of experience building scalable backend systems, APIs, automation tools, and full-stack applications in agile and start-up environments. Strong in backend development, API design, database optimization, DevOps, security, testing, and performance engineering. Recently built and deployed a real-world appointment monitoring service using TypeScript, Playwright, Telegram, and Google Cloud. Enjoys solving practical problems, owning features end to end, and turning manual workflows into reliable software.

HIGHLIGHTS

- **Performance:** Resolved an N+1 ORM issue, reducing queries from 416 to 2 and latency from 213ms to 13ms.
- **Architecture Design:** Evaluated 3 approaches for poorly performing endpoints and presented proof-of-concept evidence to a Technical Design Authority. The chosen materialized-view approach improved performance by 97%.
- **Security:** Initiated daily vulnerability scans and coordinated upgrades across 10+ services, driving the issue count to zero.
- **Automation & AI:** Built and deployed a multi-customer appointment monitoring service using Playwright, Telegram, Google Cloud, and OpenAI Codex, automating availability checks and real-time customer alerts.
- **Testing:** Co-developed an API test framework adopted team-wide, supporting more than 5,000 backend tests.

TECH STACK

- **Backend:** PHP, Symfony, API Platform, Redis, Laravel, OpenAPI, Python, Java, Node.js
- **Automation & AI:** OpenAI Codex, Playwright, Telegram Bot API, TypeScript
- **Frontend:** Vue.js, JavaScript, TypeScript, HTML, CSS
- **DevOps & Cloud:** Docker, Kubernetes, AWS, Google Cloud, CI/CD, GitHub Actions, Bitbucket, Linux
- **Monitoring & Debugging:** AWS CloudWatch, Datadog, Sentry
- **Database:** PostgreSQL, MySQL
- **Testing & Security:** PHPUnit, Postman, Fortify, composer audit, npm audit
- **Machine Learning:** TensorFlow, PyTorch, Scikit-learn, NumPy

PERSONAL PROJECTS

The Hague Appointment Checker | TypeScript, Playwright, Telegram, Google Cloud | 2026

- **Built and deployed** a Playwright-based monitoring service that checks The Hague municipality appointment availability and sends Telegram alerts when matching slots appear.
- **Designed multi-customer monitoring** so one availability check can be evaluated against customer-specific appointment types, date filters, notification settings, and expiry dates.
- **Implemented real and simulation modes**, configurable schedules, repeat notifications, and state handling to test availability transitions safely without making real bookings.
- **Deployed the monitor on Google Cloud** with CI for type safety, tests, and builds, using OpenAI Codex for AI-assisted development across architecture, feature implementation, debugging, testing, and deployment.

EXPERIENCE

Software Engineer

Evident (UK) | May 2021 - May 2025

- **Collaborated with external stakeholders** to align feature development, improving delivery speed and client satisfaction.
- **Worked cross-functionally** with PMs, BAs, Designers, and QA to ship user-centric features and improve product maintainability and usability.
- **Contributed to planning for large features**, including Crude Oil reports, cutting estimation uncertainty by 30%.
- **Supported manual and automated QA**, reducing post-release bugs by 40%.
- **Improved release cadence** through deployment and infrastructure automation, reducing release time from days to hours.
- **Resolved 50+ high-priority support tickets** using root cause analysis, cutting client-reported issues by 35%.
- **Key features delivered:**
 - Annual Audit automation - 80% ops workload reduction.
 - User onboarding - 60% faster setup.
 - NCE + QV reports - improved decision-making.
 - User permissions - enhanced security and admin flexibility.
 - API refactoring & upgrades - 2x improvement in performance and scalability.
- **Led onboarding sessions** for 10+ team members, accelerating ramp-up and domain knowledge sharing.

Web Developer

xeArts (Japan) | April 2018 - May 2021

- **Built full-stack web apps** with 3rd-party integrations including Google Translate, Shopify, and Instagram, automating workflows and enhancing UX.
- **Maintained responsive UIs and optimized backends**, improving load times and engagement.
- **Applied a CNN-based image classification model** to categorize product images and streamline e-commerce workflows.
- **Implemented an Instagram automation bot** for scheduled posting and auto-engagement, increasing brand visibility and follower growth.

EDUCATION

MSc Advanced Computer Science (Distinction) | University of Sheffield | 2021

- **Research:** Applied machine learning and deep learning for brain disease diagnosis.
- **Award:** £1000 USIC scholarship.
- **Courses:** Machine Learning, NLP, Object Oriented Programming and Software Design, Agile Team Project.

BEng Computer Science | Nagoya Institute of Technology (Japan) | 2019

- **Project:** Developed an automated negotiation-based robot collision avoidance system.
- **Awards:** 1st - PRIANAC 2018, 2nd - ANAC 2018, Meitetsu & JASSO Scholarships.
- **Publications:** 2 papers on negotiation agents at JSAI and PRIMA conferences.