William Lu

Senior QA Engineer / QA Lead | Software Quality Assurance, Test Automation & Root-Cause Analysis

Taiwan (UTC+8) · Fully Remote · Flexible Hours
sanyoii@gmail.com
LinkedIn · QA Portfolio · GitHub

13+ Years
ENGINEERING EXPERIENCE
QA and support engineering across enterprise security, semiconductor automation and financial platforms.

3 High-Severity Defects
DEFECT DISCOVERY · BTSE
Reproduced and escalated financial-logic defects in trading, referral commissions and conversion.

Led 6 Automation Engineers
AUTOMATION LEADERSHIP · ZEALOGICS / ASML
Designed the standard setup-to-reset test workflow for unattended runs; the fully remote team delivered the implementation.

20-Point Drop in Case Return Rate
SUPPORT EFFICIENCY · TREND MICRO
Initiated a DLP diagnostic guide; the share of cases SEG (Service Engineering Group) returned to L2 for missing information fell by 20 percentage points in month one (manager-reported).

Professional Summary: Senior QA Engineer / QA Lead with **13+ years in software QA and support engineering** (plus 4 years in embedded firmware), including **13 years at Trend Micro in QA and support engineering**, across **Enterprise Cybersecurity, Semiconductor Automation, FinTech/Exchange Platforms, and Embedded Systems**. Proven track record leading a 6-engineer remote automation team (**ASML**), identifying and escalating high-severity financial-logic defects via API/WebSocket/SQL validation (**BTSE**), and driving deep system/dump RCA and performance optimization (**Trend Micro**). Two-time recipient of Trend Micro's **internal Yearly Best SEG Engineer** recognition (**2019, 2021**).

Core Skills & Technical Stack

Test Strategy & QA Leadership Risk-based Testing, Test Specifications & Test Data Design, Test Reviews, QA Leadership, Internal/External Beta Planning, Automation Feasibility Assessment, Reusable-Module Planning, Technical Handover (TOI) & Onboarding Documentation

Functional, Acceptance & System Testing Manual & Exploratory Testing, Functional & Regression Testing, Boundary / Negative / FET (Force-Error Test), RAT / FAST / TOFT, System & Compatibility Testing, Cross-browser (Chrome, Edge, Firefox), Performance, Load & Stress Testing

Automation, API & Data Validation Python, Selenium, Robot Framework, TMSTAF, TestComplete, Jenkins, Atlassian Bamboo; E2E Web API Validation, WebSocket Event Inspection, Browser DevTools, SQL, TablePlus, Excel Formula Reconciliation

Troubleshooting, Environments & Tools Defect Triage, Customer-Escalation Reproduction, Incident RCA, Hotfix Validation, Log & Memory Dump Analysis (WinDbg, ProcMon, Process Explorer, Event Log); TestRail, Jira, JQL, Confluence, GitHub, Bitbucket; VMware (Workstation, vSphere/ESXi), VirtualBox, Hyper-V, Windows Server, Azure

2025–Present Self-Directed Practice & Product Domains 2025–Present Projects: Python, pytest, Playwright, GitHub Actions | **Domains:** Enterprise Security & DLP SDK; Financial & Exchange Workflows (Wallet, Spot, Futures, Convert, Referral/Affiliate, Fees, Funding, Liquidation, KYC)

Professional Experience

Career Break | Family Caregiving
Feb 2025–Present

- Career break for family caregiving; maintained hands-on QA engineering practice through personal software quality projects using Python, pytest, Playwright, and GitHub Actions.

Nogle (BTSE) | Senior QA Engineer
Sep 2024–Nov 2024

Taipei, Taiwan · On-site · → Full Case Study

- **Escalated 3 high-severity financial-logic defects** for engineering prioritization via boundary, negative, API, WebSocket, and SQL validation: (1) Futures & Spot boundary-handling defect causing inconsistent pricing or unresponsive UI across assets/browsers with an unreadable HTTP 200 OK API response, (2) Referral & Affiliate multi-tier commission allocation exceeding expected calculations under active multi-account hierarchies, and (3) Convert cross-entry boundary-handling failure across entry points and asset pairs. All three defects were acknowledged and escalated for priority handling, and remained open when I left.
- **End-to-End Exchange Coverage & Test Design:** Authored 30–50 Referral/Affiliate test cases in TestRail and ~20 Convert test cases in the internal Wiki; used TestRail for Wallet cases and wrote internal Wiki onboarding notes. Validated Wallet (deposit/withdrawal/confirmation), Spot, Futures, Convert, maker/taker fees, funding settlement, liquidation, and Individual/Corporate KYC across Web workflows (Chrome, Edge, Firefox).
- **Multi-Layer Data Reconciliation:** Verified real-time consistency across UI, REST APIs, WebSocket streams (executionReport, orderUpdate, outboundAccountPosition, positionUpdate, Balance Update), TablePlus SQL queries, and spreadsheet formula models.

Zealogics | Project Leader / Senior Automation Test Engineer
May 2023–Apr 2024

Fully Remote · Client Engagement: ASML · → Full Case Study

- **Remote Team & Delivery Leadership:** Led 6 Automation Engineers in a fully remote ASML engagement covering HMI eP5 modules (iCDU, MM Flow, ADEL), managing weekly progress via custom Jira Filters/JQL, test-case reviews, annual formal performance reviews I conducted, status and training-need reporting to ASML management, and client TOI/live demos. Implemented a portion of test cases as Python automation scripts within the TestComplete framework and reviewed the team's code.
- **Unattended CI Lifecycle Design:** Architected the end-to-end test execution flow (Simulator startup, initialization, Recipe loading, execution, reporting, cleanup, and environment reset) within the existing TestComplete architecture—enabling unattended normal-path execution via .bat and Atlassian Bamboo triggers (while connection failures required manual investigation).
- **Modular Reuse & Feasibility:** Assessed manual test cases for full vs. partial automation, planned shared modules prior to assignment to eliminate duplicate coding, authored Test System Design docs in Confluence, and contributed direct test implementation alongside the team.

Trend Micro
May 2010–Jan 2023

Taipei, Taiwan · On-site · → Full Case Study

Senior QA Engineer & Senior Customer Service Engineer Jul 2014–Jan 2023

- **QA & SEG Leadership:** Served as QA Leader and SEG Leader for the Data Loss Prevention (DLP) SDK and enterprise security products (OfficeScan, WFBS-SVC, IMSVA), bridging system/performance QA with global support-engineering RCA and hotfix validation.
- **Proactive Chrome Compatibility Automation:** Built Python monitoring via Google APIs (googleapis.com) to detect Chrome Beta/Stable updates, auto-run sensitive-file upload tests, and send alerts when DLP blocking failed—catching browser breaks before customer reports.
- **Performance Optimization (-10% CPU/RAM):** Proposed supported-site scanning during a DLP refactor; based on my recollection of the QA performance test report, CPU and memory usage each fell by at least 10% relative to the previous design (unlisted sites were explicitly unsupported, with a config-file test path).
- **Support Diagnostic Standardization (-20pp Returns):** Initiated an issue-type-based DLP diagnostic guide; in its first month, the share of cases SEG returned to L2 for missing information fell by 20 percentage points (per manager-shared figures).
- **Deep Escalation RCA & Recognition:** Automated regression suites and reproduced complex customer crashes/leaks across multi-hypervisor labs using memory dump and kernel/process diagnostics; received Trend Micro's internal Yearly Best SEG Engineer recognition in 2019 and 2021.

Senior Customer Service Engineer Jun 2013–Jul 2014

- Served as SEG Leader and final escalation point for critical WFBS Advanced incidents across APAC, Europe, and the US; led dump/upgrade-log RCA, reconstructed customer-upgrade-path hotfix validation, and proposed the WFBS Guide Book to reduce missing-info case returns.

QA Engineer May 2010–Jun 2013

- Owned module, system, and long-running performance testing (Python + Windows Performance Monitor) for WFBS Advanced (6.0 SP1–7.0 SP1); served as Internal & External Beta Owner, leading on-site production beta deployments and field diagnostics across Europe.

Tatung | Firmware Engineer
Apr 2006–Apr 2010

Taipei, Taiwan · On-site

- Developed and validated embedded C firmware for European/US LCD TVs (from-scratch OSD UI and A/V hardware calibration) and Java control systems for smart meters, supporting stable mass-production releases and a GE OEM engagement.

Selected QA Projects & Engineering Case Studies (2025–Present)

Market Data Quality Lab ↗
Python & pytest validation suites checking REST snapshots, WebSocket sequencing, latency boundaries, and order-book invariants on public market feeds.

QA Portfolio & Risk-Based QA Decision Desk ↗
Bilingual QA portfolio validated by Python, pytest, Playwright, and GitHub Actions across static, runtime, responsive, and accessibility checks.

Case studies: BTSE Financial-Logic Case Study · ASML Automation Leadership · Trend Micro RCA & Beta · Trend Micro DLP Compatibility & Perf. · How I lead QA · Multi-Agent Quality Gate (synthetic)

Education

MS, Information Engineering & CS — Feng Chia University 2003–2005

BS, Information Engineering & CS — Feng Chia University 1998–2003

Work Preferences & Availability

Based in **Taiwan (UTC+8)**; targeting **Fully Remote** roles with **flexible working hours**, open to teams in the **Americas, EMEA, and APAC**, and up to **25% travel**. Languages: **Mandarin** (Native), **English** (Professional working proficiency).