Max Leow

Email: **maxengiu@outlook.com**

Senior Test Automation Lead/Tech Lead (Generative AI)

About Me

Tech Lead advancing Software Quality through AI Innovation with 15+ years of experience progressively transforming traditional quality assurance into intelligent, data-driven systems. Certified Test Automation Engineer (CTAE-MY0003-23) currently leading enterprise AI pilot programs and implementations that are demonstrating significant potential in software testing and quality engineering.

AI-Driven Quality Enhancement Progress:

- **Intelligent Documentation System:** Implemented enterprise RAG system for technical documentation management, achieving early results showing 75% reduction in documentation search time and providing enhanced knowledge access for engineering teams
- **AI-Powered Test Generation:** Developed and piloted LLM-powered test case generation framework, initial results demonstrate 60% improvement in test coverage while significantly reducing manual test creation effort
- **Autonomous UI Testing Initiative:** Leading implementation of Anthropic Computer Use for automated UI testing, early pilot showing promising 70% reduction in manual testing cycles with continued optimization underway
- **Context Engineering Optimization:** Architected advanced prompt engineering strategies for AI tools, ongoing refinements showing 85% improvement in response accuracy and establishing best practices for AI-human collaboration
- **AI Adoption Program:** Spearheading cross-departmental AI tool adoption initiatives, with pilot programs across 3 departments showing early productivity improvements and establishing framework for broader implementation

Progressive Innovation & Impact Indicators:

- **Technical Leadership:** Mentoring teams on AI integration best practices and developing governance frameworks for responsible AI implementation
- **Scalable System Design:** Building enterprise-grade AI systems with focus on reliability, performance, and user adoption
- **Quality Engineering Evolution:** Driving modernization of traditional QA practices toward intelligent, predictive testing approaches
- **Proof of Concept Success:** Demonstrating AI application viability across multiple use cases with measurable early indicators

Advanced Technical Expertise:

- **AI/ML Implementation:** Large Language Models, RAG Architecture, Context Engineering, Anthropic Computer Use, Google A2A Agent, Google Agent Development Kit, Prompt Engineering
- **Enterprise Quality Systems:** RobotFramework, Selenium, Cucumber, Postman, JMeter, Locust (50+ systems automated)
- **Cloud & AI Infrastructure:** AWS (Bedrock, EC2, EKS, ECS, CodePipeline), Databricks, Terraform, Tekton, Jenkins
- **Full-Stack Development:** Python, Java, JavaScript, SQL, API development, Microservices architecture
- **Quality Innovation:** Performance testing, Mobile testing, Data pipeline testing, AI-enhanced testing frameworks

Leading progressive adoption of AI in software quality engineering, demonstrating measurable improvements and building scalable solutions that show strong potential for transforming organizational testing capabilities.

Projects

Cucumber Jira Xray Collaborator

https://github.com/maxleow/cujirax

Automated test management integration for Xray

Developed a comprehensive automation tool that streamlines test management by translating Cucumber JSON results into Xray test assets. The solution automatically creates test plans, executions, and test cases while importing results, significantly reducing manual effort and improving testing accuracy.

Key Features: Automated test asset creation, bi-directional result synchronization, error reduction

Time-based Release Management

https://github.com/maxleow/timebased-release

Automated semantic versioning with environment awareness

Built an intelligent versioning system that generates semantic, environment-aware, time-based version numbers. The tool automatically updates Jira “fixVersion” fields with daily generated versions and ensures version consistency across environments.

Key Features: Auto-generation of semantic versions, Jira integration, environment-aware versioning

Xray Postman Integration

https://github.com/maxleow/xray

Seamless Postman to Xray result automation

Created a library for automated import of Postman execution results into Jira Xray, enabling centralized test result management. The solution eliminates manual data entry and provides comprehensive test execution tracking with improved collaboration across teams.

Key Features: Automated result import, centralized tracking, enhanced collaboration

Duck Jenkins

https://github.com/maxleow/duck_jenkins

Advanced Jenkins build data extraction

Developed a flexible data extraction tool for Jenkins pipelines, enabling efficient querying and analysis of build information with enhanced reporting capabilities.

TestRail Data Analytics

https://github.com/maxleow/testrail_data

Comprehensive test analytics with Pandas integration

Built a Python library for extracting and analyzing TestRail data using Pandas, providing flexible data exploration capabilities for test management analytics and reporting.

Helical Railgun

https://github.com/maxlinux/helical-railgun

Streamlined unit test result publishing

Developed during a hackathon to simplify TestRail result publishing by resolving pipeline dependencies and automating the integration between unit tests and test management systems.

Experience

CelcomDigi Bhd

Tech Lead (Software Quality Systems) / Test Automation Lead

September 2022 - Present

https://corporate.celcomdigi.com/

Tech Lead (Software Quality Systems) - 2024 - Present

- **RAG Technical Documentation System:** Architected and deployed enterprise-grade Retrieval-Augmented Generation system for technical

documentation management, improving knowledge accessibility and reducing documentation search time by 75%

- **AI-Powered Test Case Generation:** Developed and implemented automated test case generation framework using Large Language Models, increasing test coverage by 60% while reducing manual test creation effort by 80%
- **Anthropic Computer Use Integration:** Pioneered test case execution automation using Anthropic's Computer Use capabilities, enabling autonomous UI testing and reducing manual testing cycles by 70%
- **Context Engineering Solutions:** Designed and implemented advanced prompt engineering and context optimization strategies for AI tools, improving response accuracy and relevance by 85%
- **AI Tool Ecosystem Support:** Established comprehensive support framework for user teams adopting AI tools, including training programs, best practices documentation, and technical consultation services
- **Efficiency Optimization:** Led organization-wide AI tool implementation initiatives, resulting in 45% improvement in overall team productivity and 65% reduction in repetitive manual tasks
- **Technical Leadership:** Mentored development teams on AI integration best practices and established governance frameworks for responsible AI implementation

Tech Lead (Generative AI) - December 2023 - 2024

- Lead and manage three cross-functional teams, including two dedicated Test Automation teams across multiple projects
- Establish and maintain best practices, guidelines, and standards to enhance test reusability and automation coverage
- Successfully extended Test Automation adoption from development environments to SIT, Staging, and Production
- Spearhead Generative AI initiatives, creating and maintaining AI-powered assessment assistants with measurable performance improvements
- Monitor and analyze metrics for AI-driven solutions, driving continuous improvement in automation efficiency
- Drive innovation in both test automation and AI applications, resulting in 40% improvement in testing efficiency

Test Automation Lead - June 2023 - December 2023

- **Certification:** Achieved Certified Tester Test Automation Engineer (TAE-MY0003-23)
- Designed and implemented comprehensive Keyword-Based Test Automation Framework using RobotFramework
- Developed scalable framework supporting 50+ Systems Under Test across Web UI, REST API, SOAP, and Mobile applications
- Coached and mentored team members, accelerating automation adoption and

establishing best practices across projects
- Implemented test pipelines using Terraform for automated build and deployment processes
- Achieved 85% test automation coverage across critical business applications

Senior QA Engineer - December 2022 - June 2023

- Implemented comprehensive data pipeline for collecting and analyzing build information from Tekton pipelines
- Utilized AWS services (Bedrock, EC2, ECS) and Databricks to create real-time QA dashboards for project visibility
- Led transformation of performance testing from JMeter to Locust, enhancing flexibility and scalability
- Improved performance testing efficiency by 60% through automated test generation and execution

QA Engineer - September 2022 - December 2022

- Automated quality gate checks for AWS CodeCommit changes, including Jira key validation and author verification
- Developed automated Jira integration bot for deployment status reporting across multiple environments
- Implemented comprehensive code quality processes ensuring adherence to development standards
- Enhanced project visibility and stakeholder communication through automated reporting solutions

Experian

Senior QA Engineer

November 2013 - September 2022

Senior QA Engineer - 2020 - 2022

- Consolidated and visualized test results into interactive dashboards,

grouping by products, teams, and priorities in time-series format
- Implemented comprehensive test analytics platform using AWS EC2, Python 3.7, EazyBI, and Terraform
- Developed automated reporting solutions for stakeholder visibility and decision-making
- **Technologies:** AWS EC2, Python 3.7, EazyBI, Bitbucket, Terraform

QA Engineer - 2018 - 2020

- Designed, implemented, and maintained product provisioning scripts using Ansible, Packer, and Terraform
- Established comprehensive test automation pipelines across the entire development lifecycle
- Promoted component testing as a left-shift strategy, reducing defects by 45%
- **Technologies:** Ansible, Packer, Terraform

QA Engineer - 2016 - 2018

- Led Cucumber and Selenium automation projects, including team coaching and library development
- Developed CHEF recipes for automated environment provisioning and configuration management
- Established testing processes and best practices for all Scrum teams
- **Technologies:** Cucumber, Selenium, CHEF

QA Engineer - 2015 - 2016

- Supervised outsourced automation testing projects using QFTest framework
- Conducted comprehensive reviews and facilitated vendor integration

- Ensured quality standards and seamless collaboration across distributed teams
- **Technologies:** QFTest

Software Developer - 2013 - 2015

- Implemented core features for PowerCurve Originations (PCO) platform
- Successfully participated in Scrum development team for 18+ months
- First engineer to implement RHEL platform support for PCO (BPS, Web Engine)
- **Technologies:** PowerCurve Originations, RHEL, BPS, Web Engine

Openet

Software Design Engineer

November 2010 - November 2013

https://openet.com

Software Design Engineer - 2012 - 2013

- Developed web-based configuration system for PCRF (Policy and Charging Rules Function) management
- Implemented UI solutions for PCEF (Policy Charging Enforcement Function) vendors in telecommunications
- Designed and delivered solutions compliant with 3GPP standards for telecom industry requirements
- **Technologies:** PCRF, PCEF, 3GPP standards, Web-based UI

Software Engineer - 2011 - 2012

- Maintained and enhanced Openet Installation Framework for multi-platform component deployment
- Gathered requirements and implemented framework enhancements to support diverse platform deployments
- Streamlined installation processes across multiple operating systems and

environments
- **Technologies:** Multi-platform deployment, Installation frameworks

Junior Software Engineer - 2010 - 2011

- Integrated Selenium web automation testing into existing automated test framework
- Developed automated deployment and testing solutions for engineering teams
- Contributed to framework architecture supporting automated testing workflows
- **Technologies:** Selenium, Automated testing frameworks

Technical Stack: JBoss Application Server, Maven, EJB 3.0, Hibernate 3.0, SEAM, GWT, HTML, JavaScript, JSF 2.0, Oracle 11g, H2 Database

Platforms: RHEL 6, HP-Unix, Sun Solaris SPARC, Sun Solaris x86

Amdocs Changing Worlds Malaysia

Software Design Engineer

2008 - 2010

https://changingworlds.com

Software Design Engineer - 2009 - 2010

- Maintained Device Description Repository (DDR) for mobile device specification management
- Developed solutions for UAProf and WURFL data collection and hosting for telecom WAP portals
- Implemented mobile device compatibility solutions for telecommunications companies
- **Technologies:** DDR, UAProf, WURFL, WAP portals

Software Engineer - 2008 - 2009

- Maintained and enhanced XSL IDE (Extensible Style Language Integrated Development Environment)

- Developed translation engine for generating device-optimized HTML/WAP pages
- Implemented NetBeans Platform-based IDE with graphical tree view for XSL document editing
- Created mobile-optimized presentation framework with user preference theming
- **Technologies:** XSL, NetBeans Platform, Mobile presentation frameworks

Technical Stack: Java SE, XSL 2.0, NetBeans Platform, Spring Core, Spring MVC, JavaScript, jQuery, SQL, PHP, PL/SQL, Axis2

Platforms: RHEL 4, Solaris SPARC 5.5, Tomcat 5, IBM WebSphere 5, Oracle WebLogic 4

Databases: Oracle 10g, MySQL

Ionnex Sdn Bhd

Mobile Software Developer

2005 - 2008

https://ionnex.com

Mobile Software Developer - 2005 - 2008

- Designed and developed cross-platform Instant Messenger application for mobile devices
- Implemented multi-protocol support (MSN, Yahoo, GTalk) with server-client architecture
- Developed J2ME client with dynamic native GUI supporting diverse mobile device specifications
- Created scalable server solution managing multiple socket connections and messenger protocol integrations
- Delivered interactive mobile communication platform with game-like user interface
- **Technologies:** J2ME, Java SE, Microsoft ASP.NET 2.0, Socket programming, Multi-protocol integration

Databases: MySQL, Microsoft SQL Server 2000

Education

Universiti Tunku Abdul Rahman

BSc Computer Science

2003 - 2005

Tunku Abdul Rahman University College

Diploma in Science

2001 - 2003

Certifications

Probability Theory, Statistic and Exploratory Data Analysis

Coursera

Issued Sep 2020

https://www.coursera.org/account/accomplishments/certificate/PQF7EHSKPVSV

Certified Testers Foundation Level (CTFL)

ISTQB - International Software Testing Qualifications Board

Issued Aug 2019

https://www.mstb.org/CTFL.php

MY0037-19

Certified Testers Test Automation Engineer (CT-TAE)

ISTQB - International Software Testing Qualifications Board

Issued Aug 2023

https://www.mstb.org/CT-TAE.php

TAE-MY0003-23

More About Me

As a father of three, I continue to pursue personal interests that contribute to my professional growth and well-being:

- **Strategic thinking:** Baduk/Go board game for analytical and strategic planning skills
- **Physical fitness:** Regular running for mental clarity and stress management
- **Creative expression:** Photography for artistic perspective and attention to detail

Max Leow - maxengiu@outlook.com - References on request