Michael Boiman

AI Automation Expert with 20+ Years Development Experience

🧠 **20+ Years Developing AI Solutions**

✉ mboiman@gmail.com   📞 Available on request via email   🌐 BKS-Lab

in michael-boiman   GitHub Profile

🤖 AI Automation Competencies

AI Email Automation

80% reduction in manual work, SAP integration

AI Invoice Processing

95% accuracy, EU standards, 40h/week saved

RAG Systems & Q&A Bots

Vector embeddings, contextual responses

Python & ML Pipelines

20+ years, production-ready AI solutions

Quality Engineering

CI/CD, test automation, monitoring

Azure & Cloud AI

Functions, serverless AI, scalable deployment

Career Profile

With more than 20 years of experience in software development, I focus on automating business and quality processes and integrating artificial intelligence. My professional strengths include:

- **AI Automation**: Optimising and implementing AI within existing business processes.
- **Python Expertise**: Extensive experience in developing AI-based solutions, automations, and data analysis using Python.
- **Business-Process Automation**: Increasing efficiency by automating manual workflows and data processing.
- **Development of an AI Mail Bot**: Automated email processing and data synchronisation with third-party systems.
- **Experience with LLMs**: GPT, Claude, Gemini, Llama, Mistral, RAGs, Agentic AI, MCP, A2A, among others.
- **Test Automation**: Setting up quality gates within the CI/CD pipeline.
- **Real-Time Monitoring**: Building systems that display quality status in real time.

CONTACT

✉ mboiman@gmail.com

in LinkedIn

○ GitHub

SKILLS & TOOLS

Python (Data Analysis, ML/AI, Automation)

AI & Machine Learning

Software Development, Design, Architecture

JIRA & Confluence

IntelliJ & VS Code

Playwright

Cucumber / Gauge / Taiko

CDC – Spring Contract & Pact.io

- **ML and DL Models**: Integrating machine-learning and deep-learning models into business processes.
- **Performance Testing**: Conducting load and performance tests.
- **Development**: Expertise in Java, JavaScript, Swift, Python and other languages.
- **DevOps**: Experience with GitHub, GitLab, Jenkins and other CI/CD tools.
- **Contract Testing**: Using Pact.io or Spring Contract.
- **Cloud Technologies**: Proficient with Kubernetes, Helm, Terraform, ArgoCD, etc.
- **Mobile Development**: Solid experience building mobile apps with Swift and Flutter.
- **Agile Methods**: Practical application of Scrum and SAFe.
- **Team Leadership**: Managing and coordinating cross-functional teams.

CI/CD Workflows – GitLab, GitHub & Jenkins

Kubernetes – Helm, Terraform & ArgoCD

REST & Postman

Load & Performance Testing with JMeter, Gatling

AWS, Google Cloud & Azure

Dashboards & Analytics – Kibana (+ES) & Graylog & Grafana & Instana

Mobile Dev – Xcode, Flutter & Swift

EDUCATION

Diploma in Computer Science (UAS)
Cologne University of Applied Sciences, Gummersbach
2000 – 2005

ISTQB Certified Tester
2005

LANGUAGES

German   Native

English   Professional

Russian Conversational

PROJECTS

wecation

wecation is a collaborative solution for organising shared experiences: plan, search, coordinate with friends or colleagues and enjoy the activity together!

QualityCluster

QualityCluster is an alliance of quality engineers jointly developing better solutions in software quality assurance.
Our goal is to implement more quality through a higher degree of automation.

AI-Driven Chatbot for Trade-Fair Interaction

Development of an interactive chatbot using RAG and OpenAI to optimise user interaction on a trade-fair website.

Automated NLP Analysis of PDF Documents

Using NLP technologies to boost efficiency in automated document analysis.

Email Classification and Processing Workflow

Integration of Microsoft Graph API, SAP, Azure Functions, REST API, OpenAI, Elasticsearch and Kibana to optimise email processing.

MCP – Model Context Protocol

Implementation of various tools for model-context orchestration.

AI Automation Function Modules

Building function modules for faster rollout of AI automation.

AI Consulting for Enterprises

Consultancy on the use of AI within companies.

Professional Experience

Quality Lead

DVAG

08/2021 – 05/2025

Test management & coordination, as well as introduction of CI/CD with quality-gate setup. Acting as cross-team Quality Lead: onboarding, guidance, consulting and training for the introduction of quality metrics and test automation within the pipeline across teams. **Key responsibilities**
Design and implementation of functional and technical dashboards with Grafana for real-time quality measurement
Documentation of quality metrics covering the measurable sprint progress
Design and setup of CI/CD pipelines for multiple development teams (backend + frontend)
Introduction of quality gates to safeguard quality within the CI/CD pipeline
Adoption of Gauge (BDD)
Roll-out of Playwright and integration into the existing CI/CD pipeline
Functional and technical incident analysis
Consultancy, design and implementation of solutions for quality-related issues
Tools
IntelliJ / Visual Studio Code
Java / JavaScript / TypeScript
Playwright / Gauge / Taiko / Karate
Python for processing and analysis of test and reporting data
CI/CD / GitHub – reusable workflows
Helm / Containers
JIRA / Confluence
Grafana
Behaviour-Driven Development
Consumer-Driven Contracts (Pact.io)

Technical Lead & Development

BKS

01/2024 – 04/2025

Technical lead & development: Design and implementation of a scalable automation solution for processing e-invoices and PDF invoices fetched from a mailbox of a leading online job platform.

Full responsibility from requirements analysis through implementation to production go-live.

Focus areas:

Workflow automation: Extraction, analysis and classification of incoming invoices using Python and Azure Functions.

E-invoice classification & data extraction: Full processing in accordance with EU standard EN 16931 (ZUGFeRD, XRechnung), including structural and content parsing.

Salesforce integration: Forwarding prepared invoice data via email to the downstream system for Salesforce import.

Auditing & logging: Comprehensive documentation of all processing steps plus storage of original email content in the processing log.

Outlook management & SharePoint archiving: Automatic moving and categorising of emails into predefined Outlook folders; archiving of original and generated invoice documents via Microsoft Graph API.

Monitoring & logging: End-to-end real-time monitoring with Kibana, including alerting and dashboard creation.

Team coordination: Managing the developer team incl. code reviews.

Tools & technologies

Azure Functions: Serverless orchestration of automation workflows.

Python: Core logic for data extraction, classification and integration with automated CI/CD processes, packaging, and comprehensive unit and integration tests for quality assurance.

Microsoft Graph API: Access to Outlook mailboxes and SharePoint libraries.

GitHub: Version control, CI/CD pipelines and collaborative development.

Kibana: Monitoring, log analysis and performance dashboards.

Streamlit: For developing an interactive web application for visualization.

Project Management & Technical Lead

Ryze

04/2023 - 04/2024

Project management & technical lead: Development and deployment of an AI-driven email bot to automate customer communication, AI-assisted processing of incoming emails and triggering of follow-up activities in existing SAP systems. Responsible for end-to-end project coordination and team management from idea to implementation.

Focus areas:

Development of ML models: Design and training of specialized models for effective email classification, implemented via Azure Functions.

API integrations: Seamless connection to Microsoft Outlook 365 via Microsoft Graph API and to SAP systems for customer data checks.

Process automation: Automatic moving of emails based on classification and specific business rules, including complaint handling.

DevOps and monitoring: Implementation of CI/CD pipelines and use of Kibana for monitoring.

Development of a Streamlit-based user interface: Improved testability and visualization of process results.

Team coaching: Technical guidance for developers with regular code reviews and problem-solving sessions.

Tools & technologies

Azure Functions: For serverless application architectures and ML model execution.

Python: Main programming language for the email bot and ML models.

Microsoft Graph API: For accessing and processing emails in Microsoft Outlook 365.

SAP API: For querying customer data and communicating with SAP systems.

GitHub: For version control, CI/CD pipelines and collaborative development.

Kibana: For real-time monitoring and system performance analysis.

Streamlit: For developing an interactive web application for system monitoring.

AI Workshop for Business Integration

Applications of AI in Business Context

2023

AI workshop: Comprehensive presentation and live demonstration of innovative AI applications for business with a focus on practical implementation, theory and code examples.

Presentation content

Comprehensive overview of AI fields and patterns (supervised/unsupervised/semi-supervised learning)

Deep dives into machine learning, deep learning and natural language processing

Detailed look at GPT models and their functionality (next token prediction)

Practical prompt engineering with examples for various use cases

Introduction to tools such as Hugging Face, Stable Diffusion, Midjourney and Auto-GPT

Practical workshop part

Development of an intelligent Q&A bot with OpenAI GPT-3.5-Turbo

Live development of a web scraper for data acquisition

Extraction and vectorization of text embeddings with OpenAI models

Implementation of similarity search for context-based answers

Similarity analysis and visualization of results

Creation of an interactive Streamlit user interface for the Q&A bot

Technologies used

OpenAI API (GPT-3.5-Turbo, Embedding-Ada-002)

Python with Pandas, NumPy and Streamlit

Vector embeddings and cosine similarity for semantic search
Web scraping with BeautifulSoup and Requests
Prompt engineering and AI integration into business processes
Integration via RESTful APIs
The full presentation is available at Pitch.com. The complete source code of the developed Q&A bot is documented in my GitHub repository.

Quality Lead

DB Vertrieb

01/2017 - 05/2021

Test management, test coordination, test automation – agile (Kanban, Scrum, SAFe):
Coordination as PO of a cross-team QA team including cross-team onboarding, support, consulting, training **Key responsibilities**
Agile quality assurance through the design of quality gates in the CI/CD pipeline
Design and implementation of functional and technical dashboards with Kibana, Graylog, Grafana, Instana & Elastic Search
Performance tests within CI/CD with Gatling / JMeter and analysis using Kibana, Graylog, Grafana and Instana
Documentation of quality metrics on the progress of measurable sprint quality
Design and setup of CI/CD pipelines for data tests
Functional and technical problem analysis
Consulting, design and implementation of solutions for quality-related issues
Setup of Junit, unit tests and integration tests, among others with Java Cucumber
Development of a hybrid app for presenting (reviewing) results on a web or mobile platform
Coordination of integration tests between the involved teams
Tools
IntelliJ
Java
Cucumber / Cypress
J-Meter / Gatling
CI/CD / GitLab CI / Jenkins
Helm / Docker
JIRA / Confluence
Kibana / Grafana / Instana / Graylog
Behaviour Driven Development
Consumer Driven Contracts (Spring Cloud Contract)
Ionic (hybrid app)

Selenium

Load and Performance Testing / Test Automation / Test Management

DB Systel

09/2015 - 01/2017

Load and performance tests and analysis – test manager, test designer, analyst: Development, execution and analysis of load and performance tests **Key responsibilities**
Requirements management
Status reports
Customer consulting
Documentation in the form of test concepts, analyses, management reporting and wiki documentation
Setup and execution of load and performance tests
Analysis of results & performance logs
Tools
Visual Studio
Eclipse
JMeter
Git
JIRA / Confluence
Excel & Access VBS
Interfaces: HTTP, WS, REST, MQ, JMS

Senior iOS Developer

Telekom

04/2015 - 09/2015

Senior iOS Developer: Further development of the rebuilt version of Deutsche Telekom's **Customer Center App**, extension with new functionalities for IFA. **Key responsibilities**
Swift
iOS 8
Requests & responses to backend
Error handling
iPad / iPhone

Scrum
Tools
Xcode
Git
JIRA

QA, Test Management

Siemens

05/2009 - 03/2015

QA, test management, test automation, requirements engineering: A total of 5 projects were supported as QA & test manager and successfully implemented **Projects**
SIPCA - Management system for employee annual targets and bonus calculation
STM - Application and travel expense recording (Frontend: Web / Backend: SAP)
GPM2 - Share bonus program for employees (Frontend: Web / Backend: JBoss)
PATAC
SOM - Management and overview of OrgUnits
Key responsibilities
Creation of technical test concepts and test plans
Defect tracking
Management of CRs, communication between customers and developers
Creation, maintenance and scheduling of test automation
User acceptance tests
Training of new testers and test automation engineers
Support as test manager after project completion in regular operation
Setup of acceptance tests
Transfer of functional specification and detailed specification to Quality Center
Monitoring of implemented requirements against the detailed concept
Tools
HP ALM
HP UFT
HP QC
Quick Test Pro

Load and Performance Tester

ING-DIBA

03/2009 – 05/2009

Load and performance tester: The goal of the project is the design and development of LoadRunner scripts for load testing a bundle of approx. 20 J2EE applications in a banking portal

Key responsibilities

Creation of test scripts in LoadRunner with the http protocol

Execution of load tests and analysis of results

Monitoring and reporting

Tools

LoadRunner

Summary of Various Activities

British Telecom, Mobiliar, DB-Systel, Sparkassen Informatik, Loyalty Partner, Telekom, Itelium, Deutsche Post, Postbank

01/2006 – 12/2008

Load and performance tester / tester: Various projects, predominantly load & performance tests

Key responsibilities

Creation of test scripts in LoadRunner with the http protocol

Execution of load tests and analysis of results

Monitoring and reporting

Tools

LoadRunner