

Muhammad Hammad Faisal

Software Engineer — Automation, Backend & Web Scraping

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PROFESSIONAL SUMMARY

Software Engineer with 3+ years building production automation systems, backend services, and large-scale web-scraping infrastructure in TypeScript, JavaScript, Python, and Node.js. Consolidated 23 service integrations under a unified architecture in two weeks, built a FastAPI microservice for PDF data extraction, and engineered Patchright-based anti-detection systems with CAPTCHA-bypass infrastructure running across thousands of accounts. Refactored a 100+ file test suite to 60 files and cut its runtime from 8 hours to 2 through parallelization and distributed infrastructure. Comfortable across the stack — React/Django apps, real-time features, CLI tooling — with strong CI/CD on GitHub Actions, GitLab CI, and Jenkins.

PROFESSIONAL EXPERIENCE

Software Engineer

Jun 2024 – Present

[Arbisoft](#)

Lahore, Pakistan

Core automation engineer across two client products — FixAlert (test automation) and Zuub (data pipelines).

- Consolidated 23 separate payer integrations under a unified bot architecture to eliminate session conflicts — refactored and merged shared modules across all 23 within a 2-week deadline; received public recognition and compensatory leave from the Team Lead.
- Proposed and architected a FastAPI microservice for PDF data extraction using the factory pattern — chosen over Node.js for Python's parsing ecosystem; adopted across multiple projects.
- Engineered Zuub's anti-detection engine with Playwright and Patchright — stealth browser configuration, fingerprint spoofing, and CAPTCHA bypass via 2Captcha integration — unblocking multiple critical client sites.
- Designed a state-based credential-rotation system managing thousands of accounts with zero bans or flags across all scraping targets.
- Refactored FixAlert's inherited 100+ file WebdriverIO suite to 60 files and cut full-suite runtime from 8 hours to 2 with parallel execution and a distributed Selenium Grid; wired CI/CD via GitHub Actions.
- Resolved a sequential async-iteration constraint (no loops permitted) with the async library's mapSeries / eachSeries for deterministic multi-step flows.
- Built an Outline-style VPN client in Python (ShadowSocks) to unblock geo-restricted targets that macOS networking could not reach; standardized TypeScript conventions and PR-review workflows across the team.

Jr. Software Engineer — Test Automation

May 2023 – Jun 2024

[Arbisoft](#)

Lahore, Pakistan

- Designed a framework abstraction layer so the codebase depended on one interface rather than a third-party tool — enabled a full framework migration by rewriting only the adapter; pattern reused across teams, including Appium → WebdriverIO transitions.
- Built a cross-platform automation framework using the factory pattern to unify Android, iOS, and web configuration behind shared logic with platform-specific overrides.
- Implemented a local Selenium Grid with Appium for parallel execution, cutting regression testing time by 40%.
- Replaced fragile fixed-loop logic with a recursive traversal algorithm for a variable-depth, branching flow.
- Collaborated with QA, dev, and product teams on automation strategy and test-coverage planning; helped onboard the Zuub project — established automation infrastructure from the ground up.

Freelance Software Engineer

Apr 2023 – Dec 2024

[Upwork](#)

Remote

- Built stealth scraping infrastructure with Patchright and custom anti-detection techniques for client data projects.
- Delivered multi-framework test automation across Playwright, WebdriverIO, Cypress, and Selenium.
- Set up CI/CD pipelines and designed test architecture from scratch.

Jr. Software Engineer

Aug 2022 – May 2023

[Ginkgo Retail](#)

Lahore, Pakistan

- Built and maintained responsive web applications with React and Django across the full development lifecycle.
- Developed a Learning Management System end-to-end — React front end, Django back end, and deployment.
- Contributed to CI/CD pipelines and code-review processes.

TECHNICAL SKILLS

Languages: TypeScript, JavaScript, Python, Java, Go, HTML5, CSS3

Backend & APIs: FastAPI, Node.js, Django, Django Channels, REST APIs, WebSockets, PostgreSQL, Firestore

Automation & Scraping: Playwright, Patchright, Puppeteer, Selenium, WebdriverIO, Appium, anti-detection, 2Captcha, rotating proxies

CI/CD & Cloud: GitHub Actions, GitLab CI, Jenkins, Git, Docker, Vercel, Google Cloud (Cloud Functions, Cloud Run), Supabase

Patterns & Practices: Factory, Abstraction, State machines, Page Object Model, Agile / Scrum, code review

Tools: Jira, Postman, Supertest, Allure Reports, Mocha

KEY PROJECTS

Stealth Scraper (Patchright)

Production-grade stealth scraping library with six anti-detection techniques — fingerprint spoofing, stealth headers, human-like delays, proxy rotation, canvas noise, WebGL masking. TypeScript, ESLint v9, GitHub Actions CI.

github.com/M-Hammad-Faisal/stealth-scraper-playwright

Code Mage — QA Automation Content Platform

Technical content platform for automation engineers; 28+ published tutorial chapters across Playwright, WebdriverIO, and Cypress. Built on Next.js 15, Supabase, Vercel, TypeScript, Tailwind v4.

code-mage.dev

ProxyPal

macOS desktop client for managing ShadowSocks connections, inspired by Outline — multi-server management and one-click switching. Python.

github.com/M-Hammad-Faisal/ProxyPal

JSON Compare Tool

JSON comparison tool with GitHub-style diff visualization, available as both a CLI and a web interface.

m-hammad-faisal.github.io/json-compare · github.com/M-Hammad-Faisal/json-compare

EDUCATION

Bachelor of Engineering — Computer Engineering

[University of Engineering and Technology, Lahore](#)

Oct 2019 – May 2023 · GPA 3.60 / 4.0

CERTIFICATIONS

- Python for Everybody Specialization — University of Michigan / Coursera
- TypeScript Variables and Data Types — LinkedIn Learning

ADDITIONAL

- **Open Source:** Contributor to the WebdriverIO repository; author of `wdio-wait-for` and several automation and developer tools.
- **Leadership:** Board of Governor and Director of Graphic Design, ACM UET Lahore (2020–2023).
- **Languages:** English (Professional), Urdu (Native), Punjabi (Native).