

Mohammed Maher, MSc

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Research interests: software analytics and mining software repositories — applying machine learning to software engineering problems (effort/cost estimation, defect prediction, developer productivity).

EDUCATION

2020-23 M.Sc. Software Engineering, University of Mosul.

Thesis on machine-learning approaches to software development cost estimation using the ISBSG dataset. Advisor: Asst. Prof. Dr. Jamal S. Alneamy.

2008-12 B.Sc. Software Engineering, University of Mosul (1st Class).

PUBLICATIONS

- **An Ensemble Model for Software Development Cost Estimation**, Maher et al. *IEEE ISRITI*, 2022. Cited by 13. [\[PDF\]](#)
- **An Overview of Machine Learning Approaches to Software Development Cost Estimation**, Maher et al. *IEEE ICCITM*, 2022. Cited by 6. [\[PDF\]](#)

RESEARCH EXPERIENCE

2020–2023 M.Sc. Thesis Research, University of Mosul (advisor: Asst. Prof. Dr. Jamal S.

Alneamy). Applied machine-learning models to software development cost estimation on the ISBSG dataset — data cleaning and feature preparation, comparative evaluation of individual learners, and an ensemble model. Produced two peer-reviewed IEEE conference papers (see Publications).

AWARDS & HONORS

2024 Full PhD Scholarship, Higher Committee for Education Development in Iraq (HCED), Office of the Prime Minister — fully-funded international doctoral study (tuition, insurance, stipend).

2012 First-Class Honours, B.Sc. Software Engineering, University of Mosul.

OPEN-SOURCE CONTRIBUTIONS

- **Castorini / Anserini & Pyserini** — merged onboarding reproduction logs into two IR retrieval toolkits maintained by Castorini (University of Waterloo): [Anserini #3118](#) (Feb 2026) and [Pyserini #2409](#) (Feb 2026).

EXPERIENCE

2023–Present Assistant Lecturer, University of Mosul — teach OOP, computer & network security, computer architecture, and open-source software.

2021–Present Software Engineer, Falaq — production software for pharmaceutical supply-chain and distribution.

2016–2021 Freelance Software Engineer — end-to-end web application delivery for private clients.

- Apr–Jun 2021** **Trainer**, The Station, Mosul — led a 12-week full-stack web development bootcamp (cohort of 15).
- 2019–2020** **Web Developer**, University of Mosul — data-collection forms and dashboards for university operations.
- May–Jul 2020** **Web Developer**, Dakakenna — full-text search over an e-commerce catalog using Elasticsearch.
- 2016–2018** **Lab Assistant**, University of Mosul — technical support and coursework mentoring in CS labs.
- 2012–2016** **Owner / IT & Network Technician**, local computer shop, Mosul — hardware, networking, and end-user IT support.

SELECTED PROJECTS

- **Falaq POS** — Cross-platform Electron/React POS client for pharmacies covering invoicing, warehousing, stocktaking, currency exchange, and reporting across 40+ feature modules; multi-arch macOS build with hardened runtime and notarization. *Electron, React, TypeScript, MUI, RxJS*.
- **Falaq Dashboard** — Admin web dashboard for the Falaq pharmacy platform, built on a custom RxJS-first state architecture (per-module Subject/Observable stores, no Redux); Storybook stories double as browser-mode Vitest + Playwright tests via `@storybook/addon-vitest`. *React 18, TypeScript, Vite, Tailwind, RxJS*.
- **Falaq Orders** — Electron desktop app for online-pharmacy order fulfillment (prescription/QR handling, printing); split main/preload/renderer with a dedicated background worker for order-page uploads, code-signature-verified auto-updater, and Sentry instrumentation. *Electron, React, TypeScript, socket.io, sharp/jimp/pdf2pic*.
- **Coviru** — COVID-19 case-tracking and PCR-testing management platform deployed across test centers in Mosul, Kirkuk, and Tel Afar. Bull/Redis-backed background jobs stream records in 10k-row batches to produce styled RTL Arabic Excel reports; cross-collection sample-state resolution via Mongoose hooks. *NestJS, MongoDB, Angular, Bull, ExcelJS*.
- **Graduates Tracking (University of Mosul)** — Alumni employment-and-planning tracking system: public applicant registration, admin dashboard, and API aggregating statistics across ~10 categorical axes with Arabic (ar-IQ) localized reporting and D3/ngx-charts visualisations. *NestJS, MongoDB, Angular, ngx-charts/D3*.
- **StartupsBus** — Web frontend for an entrepreneurial-ecosystem platform (companies, feed, dashboards, maps, analytics) with ICU-message i18n and RTL support. *React, TypeScript, Redux Toolkit, MUI, Tailwind, Google Maps*.
- **Neon** — File hosting and sharing web app supporting multi-file and chunked uploads, search, and session-based auth. Hand-rolled multipart streaming into a custom `tinybuffer` utility on top of busboy; MongoDB-backed session store. *Node.js, Express, MongoDB, busboy*.

SKILLS

Programming JavaScript / TypeScript, Python, C / C++, Java, Clojure / ClojureScript.

Frameworks Node.js, NestJS, Angular, React, Electron, RxJS.

Data & Search MySQL, MongoDB, Elasticsearch.

Cloud Google Cloud Platform, AWS.

Languages Arabic (native), English (fluent), Turkish (limited working proficiency), Japanese (elementary).

SERVICE & COMMUNITY

- Co-organizer, **Google Developer Groups Mosul**.