

Mohsen Mansouryar

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About me

I am a software developer with expertise in modern web technologies, the Android ecosystem, software testing, and visualization. I have demonstrated adaptability in both industry and research environments within visual computing. My passion is creating visualizations and generally visual experiences. I explore and pursue this through photography, generative art, and by building responsive and interactive web-based visualizations.

Skill categories

Modern Web Technologies	Angular (v9+), Typescript, RxJS, NodeJS, MongoDB, Vue (v2.x), React (v17+)
Android ecosystem	Android SDK (API levels 4 to 36), Native app development with Java, Firebase, Hybrid WebView based apps with Java/JavaScript bridge, Google Play Console
Software Testing	E2E testing web apps via Playwright/Cypress/Puppeteer, Unit testing via Jasmine/Jest, Docker, Logstash, Testing Library, Interaction/Visual testing via Storybook
Visualization	D3, SVG, Canvas API, P5.js/Processing, WebGL, PlayCanvas, VEGA, Figma
Other notable skills	Automations via Github Actions/Workflows, Python scripting, Sentry

Work Experience

- 11.2023 – Present **Mementor by ResMed, Leipzig/Munich**
Advanced Special Software Development (Fullstack dev, current Frontend lead)
- Reduced complexity of a legacy Angular frontend by utilizing D3 effectively within Angular components, removing all other graphing dependencies
 - Modernized an Angular v17 legacy frontend with significant tech debt to v20 and up to standards according to BSI TR-031 61 for certified digital health applications (DiGAs)
 - Improved loading performance of an Angular app by reducing over 30% of total bundle size without losing any features
 - Modernized and secured legacy hybrid Android application according to BSI TR-031 61
 - Refactored medical data visualization components to improve UI/UX and scientific accuracy in collaboration with lead PM, Design team, and the Science lead
 - Currently leading an initiative to improve our android application using statistics from google play console in collaboration with several PMs and our QA team (so far we improved google play rating by 18%)
 - Leading a small team to introduce E2E testing and related CI automations and workflows via Playwright and Github Actions in collaboration with tech leads, DevOps team, and our QA team
 - Proactively identified and addressed frontend skill gaps by leading regular training and knowledge sharing sessions with other developers
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- 07.2023 – Present **BCS Solutions GmbH, Landshut**
Software Developer and IT (**Mini Job**)
- Developed and actively maintain two WordPress websites including migration to AWS
 - Diagnosed and resolved recurring BCS monitoring system crashes via root cause analysis and delivering effective long-term solutions (on Windows platforms)
 - Automated workflows such as calendar synchronization for our CEO between Apple and Google via Google Apps Script
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- 10.2017 - 10.2021 **Pxio GmbH, Saarbrücken**
Frontend Developer and UI/UX Designer
- Led frontend development of all web apps, Electron-based desktop apps, and our native Android application

- Reimplemented a canvas-driven interface with SVG + RxJS to leverage DOM rendering, resulting in smoother 60fps performance and significantly easier styling and maintainability
- Unified several legacy web apps (using jQuery, D3, RxJS) and a modern Vue app
- Rebuilt the unified frontend stack as a pure Vue SPA, eliminating legacy dependencies and greatly simplifying development and maintenance
- Led migration of our Vue based frontend to React and our native Android application to ReactNative
- Developed and documented a design system and a component library using Storybook
- Designed highly interactive UI prototypes with Figma and Axure RP
- Conducted several usability tests and UX analyses

10.2014 – 03.2015

OnyxGate, Tehran

Web Developer and Designer

Designed and developed an interactive interface for browsing and managing large lists of items, inspired by modern email UIs with jQuery on the frontend side. And partially contributed to the ASP.Net + MySQL backend

04.2014 – 10.2014

Sharif University of Technology, Tehran

Android/Web Developer and DevOps

Developed an Android application with social media features and a web-based admin interface for our official university newspaper via Django

Education

Class of 2023

Saarland University, Saarbrücken, Germany

Master of Science in Visual Computing (International Program)

Thesis: "Domain-Independent and Customizable User Interface Builder for RDF Data"

Thesis Topics: Reactive dashboard UI, Usability testing, RDF Data Modelling and Inference

Main Program Topics: Image Processing, Computer Vision, Computer Graphics, Machine Learning, Geometric Modeling, ...

Class of 2014

Sharif University of Technology, Tehran, Iran

Bachelor of Science in Computer Science

Student Jobs

04.2022 – 02.2023

Payback GmbH, Munich

Frontend Developer

- Upgraded and modernised an internal Angular SPA (v9 to v13.3)
 - Refactored the entire legacy protractor E2E test suite (about 200 tests) via Cypress
 - Improved maintainability of frontend unit tests by increasing semantics using Testing Library
 - Increased overall test coverage (unit tests, integration tests, component/interaction tests) by more than 25%
 - Documented components and design system used via Storybook
 - Designed and implemented a dockerised architecture to parallelise E2E tests, reducing test execution time by 66% on our CI
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06.2015 – 05.2016

Perceptual User Interfaces, Max Planck Institute for Informatics, Saarbrücken

Research Assistant

- Developed a 3D python simulation and visualization of a novel eye tracking method
 - Performed user studies to evaluate our eye tracking method
 - Published a paper on head mounted eye-tracking at ETRA16 (first author)
 - Developed a data synthesis method for appearance-based gaze estimation using GANs (implemented via Tensorflow)
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07.2016 - 07.2017

Computer Graphics Department, Max Planck Institute for Informatics, Saarbrücken

Research Assistant

Developed a novel optimization method for Intrinsic decomposition of sparse Light-fields (in Matlab) (later published in Journal of Perceptual Imaging)

10.2016 – 08.2017

Saarland University, Saarbrücken

Teaching Assistant

Geometric Modeling (SS17), PDEs and Boundary Value Problems (WS16/17)

02.2010 – 07.2014

Sharif University of Technology, Tehran

Teaching Assistant

Advanced Programming with Java (2nd semester), Introduction to Computer Science (3rd semester), Advanced Programming with Java (8th semester), Operating Systems (10th semester)

Other

Languages Persian (mother tongue), English (fluent), German (A2)

Hobbies Table tennis, Photography, Origami, Keyboard, Hiking, Creative coding, RPG games