

Pirouz Mehmandoost

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Summary

Driven software engineer with a background in front-end development with JavaScript frameworks. Passions for product design and web graphics.

Technical Skills - Software

- Programming: JavaScript, TypeScript, React, Next.js, Redux (Toolkit, Zustand, CreateSlice), CSS (Styled Components, Tailwind CSS), WebGL (Three.js, React Three Fiber, Drei, GSAP), HTML, Java, C++, Git.
 - Design: Blender, Autodesk Fusion 360, Adobe Photoshop, Adobe Illustrator, Figma, 3D slicing softwares (PrusaSlicer, Cura).
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Projects

Portfolio Site: A React app which showcases use of WebGL to display 3D models in a web browser.

- Next.js 14 based using Pages design pattern for routing/navigation, styled with Tailwind CSS and deployed using Vercel.
- Managed app state with Zustand (a flavor of Redux) and React Three Fiber hooks to cache 3D assets and manage WebGL renders independent from React component render cycle.
- Used React Three Fiber and GLTFJSX libraries to render interactive 3D scenes and manage them as JSX components.
- Designed complex 3D models using Blender and Autodesk Fusion 360, and developed prototypes using a Prusa i3 MK3S+ 3D printer.

Product Design: 3D Printed collections of handbags, fitness accessories, and footwear

- Developed a proprietary technology: a modular footwear design to allow transforming the shape of footwear.
 - Designed CAD's for mechanical components with Autodesk Fusion 360, and sculptural models with Blender.
 - Developed an embedded lock mechanism to automatically lock and manually unlock the non-load-bearing portions of footwear.
 - Printed prototypes with a Prusa i3 MK3S+ FDM printer using Shore 95A TPU, Shore 83A TPE, foaming TPU, Nylon and fiberglass.
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Professional Experience

Junior Software Engineer, Altair Engineering, Berkeley, CA, 08/2020 - 02/2022

Project: React-Native app for an IoT platform

- Researched authentication best practices for native apps and developed a login feature with logic compliant to AuthNZ standards.
- Developed a "scenes" feature that enables controlling and configuring settings on multiple smart flood lights and tubes.
- Developed a "schedules" feature to apply "scenes" settings based on configurable schedules.
- Developed a smart device detection feature to configure Bluetooth devices and sync local data with a cloud API.
- Collaborated with a lead engineer to develop a controls panel for configuring IoT hardware including smart lights.

Project: TypeScript-based Web app for an IoT platform

- Collaborated with a lead engineer to implement Redux (CreateSlice) for managing application state.
- Developed a floor map visualization feature for displaying overlays of data pertaining to floors in multistory buildings.
- Developed a feature to visualize and tabulate hierarchical IoT network data. Enabled table filters, tooltips, and breadcrumb navigation to ease traversing complex hierarchies.

QA Software Engineer, Altair Engineering, Berkeley, CA, 09/2019 - 08/2020

Project: QA test suite against new API

- Assessed use cases for leveraging the Postman API testing platform and developed a presentation to share insights.
- Wrote the QA team's first JavaScript-based API tests using Postman and demonstrated use of the Newman CLI.
- Documented team standards for writing API tests, repository management, and usage of Postman.
- Gained familiarity with AuthNZ2.0 and OAuth standards within the context of API testing, and SSO on React-Native apps.
- Maintained communication with the backend team during multiple stages of REST API development and deployment.

Intern QA Engineer, Altair Engineering, Berkeley, CA, 06/2019 - 09/2019

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Graduate Student Assistant, Mills College, Oakland, CA, 08/2017 - 05/2019

- Graded coursework for introductory and intermediate object-oriented programming classes using Java.
- Provided on-campus tutoring for Discrete mathematics 1.

Computer Science Tutor, Ohlone College, Fremont, CA, 06/2016 - 05/2017

- Conducted pair programming during class for 3 C++ based classes: introductory and intermediate OOP, and data Structures.
 - Provided on-campus group and individual tutoring.
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Education

Post-Baccalaureate BA	Computer Science, Advanced Degree Prep Track Art, Persian Studies	Mills College SFSU	Oakland, CA San Francisco, CA	2017 - 2019 2009 - 2013
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