Ali Momennasab

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Education

California State Polytechnic University, Pomona 8/2022 - 12/2025 (Expected)
Bachelor of Science, Computer Science Pomona, CA

- GPA: 3.92/4.0
- Relevant Coursework: Data Structures, Algorithms, Machine Learning, Cloud Computing, GPU Computing
- Activities & Awards: Computer Science Society, Software Engineering Association, Dean's List

Experience

Cardiac Vision Lab, University of California, San Francisco 6/2023 - Present
Research Assistant Remote

- Researching deep learning segmentation of hearts in ultrasound images under Professor Jan Christoph.
- Developed a MATLAB script to generate hundreds of synthetic 3D heart ultrasound images daily, enhancing our model training datasets.
- Collaborated with lab members to integrate my synthetic data into U-Net training pipelines, significantly improving segmentation performance on experimental ultrasound data.
- Modified our U-Net model to accept 3-channel input images, enabling simultaneous processing of three sequential ultrasound heart frames and further improving segmentation results.

Code Ninjas 6/2023 - 8/2024
Coding Tutor Hacienda Heights, CA

- Taught classrooms of 20+ elementary to high school-aged students programming and problem-solving skills with Unity, Roblox Studio, and Microsoft MakeCode.
- Instructed weekly website development summer camps, implementing an HTML/CSS/JavaScript curriculum.

Projects

Leaf Disease Classification | github.com/alimomennasab/LeafDiseaseClassification 8/2024 - 12/2024

- Implemented and trained a ResNet-50 model with 10,000 leaf images using Pytorch.
- Achieved an accuracy of 94% across 10 leaf disease classes with high precision and recall.

NFL Mock Draft Simulator | github.com/alimomennasab/NFLMockDraft 6/2024 - 8/2024

- Created an NFL mock draft simulator by web scraping data for 32 NFL teams, 250+ draft picks, and 200+ draft prospects with Selenium, storing the collected data in a PostgreSQL database.
- Designed and implemented a responsive user interface with React and TailwindCSS, featuring draft simulation and an interactive trade system.
- Implemented server-side rendering and API routes with Next.js, utilizing Prisma for efficient database queries.

BroncoDirectMe | broncodirect.me 8/2022 - 5/2024

- Contributed to BroncoDirectMe, a web extension with 400+ users that improves Cal Poly Pomona's class registration portal.
- Utilized React, TypeScript, and Material UI for new portal features such as displaying average course GPAs and RateMyProfessor data fetched using REST API's, increasing the functionality of the portal.
- Designed modernized website UI mockup using Figma, enhancing the user experience of the portal.
- Achieved the Google Featured Extension badge by adhering to Chrome Web Store's best practices, increasing visibility and user engagement.

Skills

Languages: Java, C++/C, Python, TypeScript/JavaScript, Swift, Kotlin, CUDA C
Frameworks: React, Next.js, MUI, TailwindCSS, Prisma, Selenium, PyTorch, TensorFlow, ARKit
Development: GitHub/GitLab, Figma, LaTex