IBRAHIM MOHAMED

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Experience

New Lantern — San Francisco, CA
Software Engineer — *Oct 2024 – Present*

- Leading the evolution of New Lantern's imaging viewer and product roadmap.
- Delivered a production-grade mammography suite with advanced tools, BI-RADS reporting, and radiologist-centric workflows, expanding New Lantern's market and driving adoption.
- Designed a production-ready PET/CT and PET/MR fusion module with SUV quantification, tumor segmentation, and MIP 3D visualization, powering oncology workflows and extending New Lantern's reach into molecular imaging.
- Engineered a fully customizable and intelligent hanging protocol system, empowering radiologists to define, optimize, and personalize viewing layouts across all imaging modalities.
- Reduced time-to-first-image to as low as 10 ms through advanced caching strategies, including CDN edge warming and intelligent local caching.
- Engineered high-performance multi-monitor support for the core radiology viewer, enabling seamless configuration and synchronized image display across up to four monitors
- Integrated advanced AI models into clinical workflows, including SAM 2 for interactive medical image segmentation, TotalSegmentator for multi-organ labeling, and LLMs for structured report generation, accelerating diagnostic workflows and enabling intelligent automation.
- Pioneered a complete frontend performance overhaul, slashing first-pixel load from 1.8s to $\leq$100ms, making New Lantern the fastest imaging viewer on the market.
- Led a large-scale refactor of the viewer's architecture, introducing clean separation of concerns, modular builds, and scalable design patterns to dramatically reduce technical debt and improve maintainability.
- Served as the go-to expert for DICOM and medical imaging, contributing deep knowledge in image decoding, rendering optimization, and diagnostic workflow support across the platform.
- Established structured planning with estimates and milestones, improving engineering throughput.

Radical Imaging — Boston, MA
Lead Software Engineer — *June 2023 – March 2025*

- Leading the team of engineers behind the flexible SaaS DICOM viewer FlexView.
- Engineered a flexible SaaS DICOM viewer using NestJS and NextJS. This cloud-based viewer effortlessly integrates with diverse workflows, maintaining its core functionality while providing adaptability.
- Developed software solutions to tackle challenges in medical imaging projects, focusing on web development, cloud, and AI.
- Addressed security vulnerabilities within the AWS infrastructure, leading to substantial improvements in system integrity.
- Integrated AWS Marketplace into our SaaS offerings, resulting in a surge in customer acquisition.
- Established validation methods for clinical tools in the viewer, streamlining the FDA application process and ensuring compliance with regulatory standards.
- Implemented comprehensive automated testing strategies, leveraging frameworks such as Jest, Cypress, and Playwright.
- Engineered multiple integrations for our SaaS DICOM viewer, notably with EPIC EHR, NVIDIA's MONAI for AI-enhanced medical imaging, and major cloud services, enhancing interoperability and utility in healthcare.
- Core maintainer of Cornerstone3D (https://www.cornerstonejs.org/) and OHIF (https://ohif.org/).

Jewish General Hospital — Montreal, QC
Software Engineer — *April 2022 – June 2023*

- Deployed and configured ML models on AWS, using EC2 accelerated compute instances and Sagemaker.
- Prepared ML models for inference using FastAPI, Nginx, and AWS Load Balancer.
- Built a user authentication system using AWS Cognito and FastAPI to verify user JWT tokens.
- Engineered several architectural diagrams and led planning of app development and infrastructure design.
- Developed a fast web DICOM viewer in Vue 3 with CornerstoneJS for accelerated display and decoding..

Grafana Labs — New York, NY
Software Engineer — *Jan 2022 – April 2022*

- Built an admin UI for managing feature toggles, reducing support load and improving user autonomy.
- Improved user self-service by surfacing active feature toggles directly in Grafana instances.
- Wrote detailed design docs outlining feature architecture, UX, and implementation strategy.

Technical Skills

Languages/Tools: TypeScript, Python, React, Next.js, Node.js, FastAPI, NestJS, Docker, AWS, GCP, SQL, PyTorch, Playwright

Education

Memorial University of Newfoundland — St. John's, NL
Bachelor of Science in Computer Science — *Sep. 2020 – Apr. 2024*

Certificates & Awards

IDesign - Architect's Master Class — July 2024 – Present
AWS Certified Solutions Architect Professional — Jan 2023 – Present