Feolu Kolawole

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EDUCATION

Stanford University **Expected Graduation Date: June 2027**

B.S. in Computer Science

- **Coursework:** Data Structures & Algorithms, Operating Systems, Concurrency, Linear Algebra, Multivariable Calculus, Discrete Math, Machine Learning, Deep Learning for Computer Vision, Statistics, Combinatorics
- **Activities/Societies**: Stanford XR (Vice President), Stanford AI Club, Stanford Neurotech

PROFESSIONAL EXPERIENCE

Software Development Engineer (Spectacles Team) **Stanford, CA: Jun 2025 - Present**

Snapchat

- Lead developer on a flagship augmented reality prototype (AR CAD) for Snapchat Spectacles, leading a 4-person team to be awarded **$20K** in funding.
- Developed AR CAD as the first collaborative Spectacles lens for engineers to visualize and share 3D models in real-world environments, cutting prototyping costs by **~40%** and accelerating design iteration.

Lead Machine Learning Researcher **Stanford, CA: Mar 2025 - Present**

Stanford AI Laboratory (PI - Ron Fedkiw)

- Drove development of CNN models to generate realistic 3D hair reconstructions across demographics, boosting accuracy to 96% and enabling deployment on lightweight devices.
- Built a highly robust extraction algorithm with OpenCV and SAM segmentation, capable of handling poor-quality images and achieving perfect segmentation on 98% of images.

Software Engineer - Spatial Computing **Palo Alto, CA: Dec 2024 - Jun 2025**

Stanford Human Perception Lab (PI - Khizer Khaderi)

- Engineered an AR application for Snap Spectacles using Lens Studio and JavaScript, leveraging environmental testing to evaluate perception levels and enabling analysis of **92%** of the available field of vision.
- Created a process to transform video into accurate 3D environments by integrating SLAM and point-cloud segmentation models, thereby optimizing output by **44%**.

PROJECTS

VR Healthcare Training Simulation (Winner, MIT Hackathon) | *Swift , RealityKit*

- Created a VR healthcare simulation on the Apple Vision Pro, enabling CPR and first aid training and pioneering SharePlay integration for collaborative learning with iPhone users.
- Showcased to **The Venture Reality Fund**, where the concept was acquired and carried forward.

Supreme Court Case Prediction (1st Place, Stanford Class of 500) (View Paper) | *Python, Numpy*

- Built a Bayesian court case prediction framework that achieved **73% top-3 accuracy** across **11 possible Supreme Court case outcomes** by leveraging observable case attributes.
- Featured as a winner and future example project in Stanford's CS109 course (selected from **500 students**).

SynchroSound: Facial Expression Based Song Selection | *Swift, API, Javascript, React, Objective-C*

- Built an iOS app that deciphers facial expressions to recommend mood-matching songs, integrating SwiftUI, UIKit, and SwiftData with Google Cloud Vision and Spotify's Web API.
- Processed **500+ test images** across multiple emotions to validate recommendations, improving user-song mood alignment **accuracy by 82%**.

Heap Allocator – Custom Computer Memory Management System | *C, x86 Assembly, GDB*

- Developed an algorithm that optimizes computer memory utilization (i.e. freeing up storage by **20%** across **100,000** requests).
- Implemented custom malloc, realloc, and free functions in C for heap-level memory management.

Shell - Custom Unix Shell Implementation | *C, C++, GDB, x86 Assembly*

- Built a command-line Unix Shell (computer operating system) that allows key tasks like file manipulation and

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redirection.

- Enhanced the Unix Shell to run **10+ programs** at once while testing across **100+ real-world** scenarios.

Medical MRI Image Reconstruction (View Paper) | *Python, Pytorch, Deep Learning*

- Engineered AI-based models for medical MRI image reconstruction with PyTorch, **cutting required scan times by 55–70%** while preserving quality images, and co-authoring a research paper on the work.
- Enhanced the MRI image quality beyond baseline deep learning models, **reducing reconstruction error by ~60%** and significantly improving detail preservation.

AgenTeX: Image to LaTeX (Winner, AgentOps Hackathon) | *Hugging Face, Python*

- Engineered an AI agent with OpenAI's Agents SDK to convert handwritten math to LaTeX with 91% accuracy.
- Featured as an AgentOps hackathon winner, with board member recommendation for commercial launch.

Music Recommendation System (View Paper) | *Python, SVD, Dimensionality Reduction, PCA*

- Designed a music recommendation system using SVD and PCA to analyze over **60 audio features** from **7,000 Spotify songs**, uncovering patterns in sound beyond traditional metadata.
- Implemented feature projection to identify similarities across **35 combinations of musical features**.

TECHNICAL SKILLS

Programming Languages: Python, Java, Javascript, Typescript, C, C#, C++, Swift, Assembly, HTML/CSS, R
Libraries/Frameworks: Next.js, React.js, Flask, FastAPI, Node.js, Tailwind CSS, Node.js, OpenGL, Git, Linux
Software: Github, Docker, Vim, Emacs, Pytorch, Visual Studio Code, XCode, Blender, Unity, Lens Studio, RStudio