

Zain Karim

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EDUCATION

Bachelor of Science in Computer Science

The University of Texas at Dallas

Expected graduation December 2026

Richardson, TX

- Relevant Coursework: Computer Vision, Machine Learning, Data Structures and Algorithms.

EXPERIENCE

Apple

Technical Specialist

August 2024 – Present

Dallas, TX

- Delivered tailored product support and technical guidance to **thousands of customers**, surfacing pain points and translating feedback into actionable insights to drive long-term product engagement.
- Generated **over \$10,000 in monthly sales** by combining technical expertise with customer-focused problem solving and education.

Responsible AI Laboratory at the University of North Texas

Undergraduate Researcher

May 2023 – September 2023

Denton, TX

- Conducted sentiment analysis of **10,000+ tweets** using **Python**, **NLTK (VADER)**, and **Matplotlib** to identify and visualize patterns in public discourse on social media.
- Designed and ran controlled experiments with **generative image models (MidJourney, DALL·E)**, generating hundreds of images while systematically logging prompts, seeds, and styles to analyze model behavior and reproducibility.

SELECTED PROJECTS

Selenium – Intelligent iOS Light Meter App

<https://github.com/zainkarim/selenium>

- Built a **Swift/SwiftUI** light meter app leveraging **AVFoundation** for real-time camera capture, exposure readouts (ISO, shutter, aperture), and photo saving to the system Photos library.
- Integrated Apple's **Vision** framework and custom heuristics to classify scenes (portrait, group, animal, plant, landscape) and provide **AI-driven exposure recommendations** based on saliency, face detection, and confidence thresholds.
- Engineered a **local gallery system** with Codable sidecars for AI metadata, batch export/share functionality, and persistent storage, using **Swift Concurrency** and modern iOS frameworks.
- Designed and implemented **custom UI/UX controls** (scrub gestures, rule-of-thirds grid, glass panels).

Lexigo – Gamified Dictionary App

<https://github.com/zainkarim/lexigo>

- Developed a gamified dictionary web app with **React Native (Web)** and **Firebase**, featuring dictionary search, flashcards, quizzes, favorites, and secure authentication.
- Deployed production builds on Firebase Hosting, leveraging the Free Dictionary API for real-time vocabulary definitions and interactive learning.

pixi-cli – Image Processing Command Line Utility

<https://github.com/zainkarim/pixi-cli>

- Developed and published a **Python-based image processing CLI tool** supporting cropping, exposure adjustments, blurring, noise reduction, and multi-format conversions.

Live Dallas Skyline Color Analysis Twitter Bot

https://github.com/zainkarim/dallas_skybot

- Developed a **Python** tool that analyzes live video feeds to match Dallas skyline colors to Pantone equivalents and tweets results automatically via **Twitter API**, deployed on **AWS EC2** with **Docker**.

TECHNICAL SKILLS

- **Programming Languages:** Python, Swift/SwiftUI, JavaScript (React), C, C++, Java
- **Frameworks and Libraries:** AVFoundation, Vision, React Native (Web), Firebase, PIL, Matplotlib, NLTK
- **Tools:** AWS EC2, Docker, Git/GitHub, Xcode, VS Code, VIM