

# Zakaria Al-Alie

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## EDUCATION

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### University of California, Berkeley | Berkeley, CA

May 2028

*B.A. in Data Science*

**Planned Relevant Courses:** Foundation of Data Science, Program Structures, Data Structures, Calculus II, Multivariable Calculus

### Merritt College | Oakland, CA

Dec. 2024

*Dual Enrollment*

**Relevant Courses:** Applications in Info Security, Secure Coding in JAVA and .NET, Python Application Programming, Introduction to Computer Programming, Introduction to Physics

## AWARDS AND HONORS

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### Regents' and Chancellor's Scholarship

UC Berkeley's most prestigious merit-based award, granted to the top 1–2% of entering students for demonstrated creativity, leadership, service, and outstanding academic excellence.

### Leaders for Tomorrow Scholarship

Selected as one of two recipients in my incoming UC Berkeley class to receive this national award, recognizing perseverance through adversity and exceptional leadership potential.

## PROJECTS

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### xView2: Building Damage Assessment | PyTorch, OpenCV, CUDA, pandas

Apr. 2025

- Automated building damage assessment on **850K+ buildings** across **15 countries** using **PyTorch**
- Built **U-Net** for localization, **CNN** for four damage levels, (un-damaged, minor, major, damaged)
- Achieved **84.4% weighted F1 (92% undamaged, 72% destroyed)**
- Created **CUDA-accelerated inference** with **precision/recall** reporting and visualizations

### BerkeleyBets | React, Express.js, scikit-learn

Jun. 2025

- Built **full-stack** sports analytics with 150+ NBA, NFL, MLB athletes with **React** (8 components, 4 pages) and **Express.js**
- Modeled **15K+ samples** from **1,419 player-seasons** using **position-specific Random Forest** with **temporal validation**
- Implemented **real-time player lookup** with **Fuse.js fuzzy search** and predictive analytics dashboard

### Neuroimaging for Tumor Diagnosis | PyTorch, torchvision, scikit-learn

Jul. 2025

- Used **PyTorch ResNet-18 transfer learning** on MRI images, achieving **97.9% accuracy** across 4 tumor types
- Achieved **F1-scores of 96.5%-99.4%** across all categories (glioma, meningioma, pituitary, no\_tumor)
- Implemented **data augmentation** with **rotation, flipping**, and **brightness adjustments** along with **learning rate scheduling** and **early stopping**

## LEADERSHIP

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### Community Tutor and Volunteer | Oakland, CA

Sep. 2020 - Present

- Mentored **100+ youth** in CS/Math coursework across **five local mosques** in Oakland
- Hosted community events and distributed **500+ plated meals** during Ramadan
- Organized **cleaning** and **restoration** efforts to maintain mosque facilities

## TECHNICAL SKILLS

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**Languages:** Python, JavaScript, SQL, TypeScript

**Technologies:** PyTorch, TensorFlow, scikit-learn, Hugging Face, LangChain, React.js

**Tools:** CUDA, Docker, Git, Jupyter, NumPy, pandas