Zakaria Al-Alie

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Education

University of California, Berkeley   **May 2029**
Bachelor of Arts in Data Science
Planned Relevant Coursework: *Foundations of Data Science, Program Structures, Data Structures, Calculus II, Multivariable Calculus*

Merritt College, Oakland   **Dec. 2024**
Dual Enrollment
Relevant Coursework: *Applications in Info Security, Secure Coding in JAVA and .NET, Python Application Programming, Introduction to Computer Programming, Introduction to Physics*

Awards and Honors

Regents' and Chancellor's Scholarship Recipient
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 Recipient
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

xView2 Building Damage Assessment   **Apr. 2025 - June 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, CalHacks Hackathon   **June 2025**
- Built **sports analytics platform** with **150+ NBA, NFL, MLB athletes** with **React (8 components, 4 pages)** and **Express.js API**
- 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**

MRI Brain Tumor Classification   **July 2025**
- Built brain tumor classifier using **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) with separate test set evaluation
- Implemented **data augmentation pipeline** with **rotation**, **flipping**, and **brightness adjustments** plus **learning rate scheduling** and **early stopping**

Skills

Languages: Python, JavaScript, Java
Libraries/Frameworks: PyTorch, scikit-learn, OpenCV, NumPy, pandas
Web Technologies: React, Express.js, REST APIs, Firebase
Tools: Git, Jupyter, Google Colab, VS Code
Databases: MySQL, NoSQL