Alonso Coronado

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EDUCATION

University of Michigan   Ann Arbor, MI
B.S.E - Computer Science and Engineering   *Aug. 2023 – Apr. 2027*

Coursework

Machine Learning, Database Management Systems, Data Structures and Algorithms, Linear Algebra, Probability and Statistics, Multivariable Calculus, Computer Vision, Web Systems

EXPERIENCE

Software Development Engineer Intern   Jun. 2025 – Aug. 2025
Amazon – Business Data Technologies   *Detroit, MI*

- Engineered a full CI/CD pipeline for a job decoration service, automating 100 weekly updates and cutting deployment effort to zero for downstream systems.
- Monitored and optimized performance for an engine processing hundreds of thousands of jobs/day, creating real-time metrics and alarms for API errors, fault rates, latency, and reliability.
- Reduced incident resolution time from 8 hours to minutes by building a slow job runtime monitor in Java using concurrency executors and branching logic.
- Integrated AWS (CloudWatch, Lambda, S3, CloudFormation) and internal Amazon systems to automate monitoring, logging, and recovery processes.
- Partnered with a 20-member product team to deprecate legacy components, resolve bugs, and increase ETL platform stability.

PROJECTS

Neural Network From Scratch | *Python, NumPy, Streamlit*   May. 2025 – Jun. 2025

- Built a feedforward neural network from first principles (vectorized forward/backprop, ReLU/Softmax, cross-entropy, L2 regularization) with mini-batch training and model persistence.
- Shipped dual interfaces: a CLI for scripted runs and a Streamlit UI for dataset upload, training controls, and live metrics.
- Containerized with a multi-stage Dockerfile and one-command startup; deployed on Render with environment-based configuration for offline/local runs.

Weatherbot – Personalized AI Weather Emails | *Python, SQLite*   Jun. 2025 – Jul. 2025

- Built an end-to-end weather alert system: Streamlit config UI → scheduler → email delivery, with personality-styled AI commentary.
- Integrated WeatherAPI for data and Gemini for NLG; persisted user preferences & run logs in SQLite with structured logging.
- Dockerized (Docker + docker-compose) for reproducible deploys; .env-driven secrets; single command to launch UI and scheduler.

Real-Time Face Auth/ID Demo | *Python, OpenCV, SQLite*   Jul. 2025 – Aug. 2025

- Implemented /register and /verify endpoints performing detection → embedding (FaceNet) → cosine-similarity match with thresholding and multi-embedding per user.
- Built a React webcam UI (react-webcam) for one-click authentication and clear pass/unknown states; added a blink-based liveness heuristic.
- Containerized full stack (backend + frontend + DB) with docker-compose; CI pipeline (lint, build, smoke test) via GitHub Actions for repeatable runs.

Predicting ICU Mortality Risk | *Python, Scikit-Learn, Pandas*   Jan. 2025 – Feb. 2025

- Built a logistic regression model predicting ICU mortality with **82.2% AUROC** using real patient data
- Processed **12,000+** patient records, implementing feature engineering, imputation, and scaling
- Optimized hyperparameters via **5-fold cross-validation**, improving F1-score by **20%**
- Applied L1/L2 regularization to identify key mortality predictors, reducing overfitting

TECHNICAL SKILLS

Languages: Python, SQL, NoSQL, Java, C, C++, Scala, JavaScript, CSS, HTML, Matlab
Technologies: TensorFlow, PyTorch, Scikit-Learn, Spark, Pandas, React, AWS, Linux, Azure, Git, Streamlit, NumPy, Docker, OpenCV