

Alonso Coronado

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EDUCATION

University of Michigan

B.S.E - Computer Science and Engineering

Ann Arbor, MI

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 **runtime monitor** in **Java** using **concurrency** executors and branching logic.
- Integrated **AWS (CloudWatch, Lambda, S3, CloudFormation)** and internal 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