Issac Roy

U.S. Citizen, San Diego, CA

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Education

University of California San Diego (4.0 GPA) **March 2027**

B.S. Data Science | *Math Minor* | *Cognitive Science Minor* *San Diego, CA*

Experience

Neurocrine Biosciences | *Data Engineer Intern* **June 2025 – September 2025**

- Architected and deployed containerized cloud-based web scraper to avoid $200K in annual operating expenses.
- Prototyped an AI-driven data pipeline to convert raw patient data into study-specific narratives, streamlining reporting and decision-making for study teams.
- Implemented end-to-end DevOps workflows using Terraform (IaC), AWS Lambda, and multi-env CI/CD pipelines while collaborating across data and software teams using Jira and Confluence.
- Supported the Clinical Data Science team's mission to enhance monitoring and oversight of clinical trials by developing and maintaining scalable ETL pipelines and Power BI dashboards.

Data Science Student Society (DS3) | *Director of Software* **October 2024 – Present**

- Bridging the gap between classroom theory and real-world practice by leading workshops on cloud computing, containerization, web development, Terraform, and Git, training 200+ students on industry-standard tools.
- Directing the design, development, and deployment of full-stack websites for UCSD clubs, creating hands-on technical experience for students.
- Leading a 10+ member software team in one of the largest data science clubs in the nation, applying Agile methodologies to improve collaboration and delivery.

San Diego Taxpayer's Association | *Data Science Intern* **October 2024 – January 2025**

- Enhanced data-driven policy analysis by developing a pipeline that aggregates and analyzes public sentiment on local issues and policies, supporting evidence-based recommendations for policymakers.

Projects

Predicting Power Outage Severities | *Python, Scikit-Learn, Pandas, Folium* **December 2024**

- Created an end-to-end Machine Learning pipeline predicting power outage severities across the U.S. with 78% accuracy.
- Performed data cleaning, EDA, hypothesis testing, and feature engineering on temporal and categorical attributes.
- Conducted fairness evaluations using permutation tests and bias analysis across states.

Neural Network from Scratch | *Python, NumPy, PyTorch* **March 2024**

- Built a neural network from scratch using only NumPy and linear algebra concepts, achieving 92% accuracy on MNIST; improved to 95% with PyTorch and 100x faster training.
- Implemented regularization, dropout, and data augmentation to reduce overfitting and improve generalization.

Extracurricular

Project Daedalus | *OpenRocket, C++, 3D Printing, Raspberry Pi* **October 2025 – Present**

- Developing a G-class rocket with a 3D printed payload fairing and a custom parachute system.
- Using OpenRocket to simulate the rocket's flight and programmed the avionics system to collect telemetry data during flight with GPS and IMU sensors.

OnlyDance | *OpenCV, ModelPipe, React Three Fiber, TypeScript, Python, FastAPI* **April 2025**

- Won 1st place at DataHacks 2025 against 50+ teams by developing an interactive full-stack app that teaches dance routines using 3D avatars and real-time feedback.
- Engineered a real-time similarity scoring system using joint weighting, frame interpolation, and sliding window techniques for robust pose matching.

Self Playing Guitar | *Arduino, CAD, Laser Cutting, 3D Printing* **December 2023**

- Won 1st place at IEEE's Fall Competition against 30+ teams with a self-playing guitar.
- Designed and fabricated custom parts using laser cutting and 3D printing and programmed a note transcriber in Arduino C to map musical notes to servo motions.

Technical Skills

Certifications: AWS Cloud Practitioner, AWS AI Practitioner, AWS Solutions Architect Associate
Tools: AWS, Git, MongoDB, Jira, Confluence, Terraform, PyTorch, Docker, Linux, Apache Spark
Languages: Python, SQL, React, TypeScript, Java, C, C++, C#, Go, Lua