

# 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