ISSAC ROY

U.S. Citizen, San Diego, CA

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Education

University of California San Diego (3.98 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 a containerized web scraper on AWS ECS and Lambda to automate competitive intelligence data gathering, eliminating dependency on third-party vendors and saving $200k in annual OpEx.
- Developed an AI-driven data pipeline with AWS Bedrock to convert raw patient data into study-specific narratives, streamlining reporting and decision-making for study teams.
- Implemented DevOps workflows using Terraform (IaC), AWS Lambda, and multi-env CI/CD pipelines, collaborating with Jira and Confluence to directly support the Clinical Solution team's mission to enhance monitoring of clinical trials.

San Diego County Taxpayers Association (SDCTA) | *Data Science Intern* — **October 2024 – January 2025**

- Built an NLP-driven policy analysis pipeline, utilizing Playwright for data scraping and Hugging Face Transformers for sentiment analysis, supporting evidence-based recommendations for policymakers.
- Designed interactive visualizations using Python (Pandas, Plotly Dash) to communicate complex fiscal data to non-technical stakeholders, increasing transparency on municipal spending trends.

Leadership

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

- Engineering a data platform on Supabase to aggregate previously siloed metrics (event attendance, merchandise sales, fundraising), establishing the organization's first scalable pipeline for historical data analysis.
- Leading a 10+ person engineering team to build the telemetry infrastructure required to track member retention and engagement, enabling future data-driven optimization of club operations.

AWS Cloud Club at UCSD | *Founder & VP Technical* — **November 2025 – Present**

- Established UCSD's official AWS affiliate organization; designing and leading technical workshops on MLOps (Git, AWS, Docker, Terraform) to equip 200+ students with the practical skills to build and deploy scalable data and ML solutions.

Projects

Neural Nector | *PyTorch, React, TypeScript, Python, FastAPI, Postgres* — **December 2025**

- Trained a Generative Adversarial Network (GAN) to synthesize realistic flower images, achieving a FID score of 50.
- Built an interactive, full-stack web app challenging users to distinguish between real and GAN-generated flower images, engaging 100+ unique users.

OnlyDance | *OpenCV, MediaPipe, 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 algorithm using MediaPipe to extract 3D pose landmarks, implementing sliding window techniques and frame interpolation to quantify dance accuracy.

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

- Created an ML pipeline to predict power outage severities across the U.S. with 78% accuracy, performing data cleaning, EDA, hypothesis testing, feature engineering, and fairness evaluations across states.

Extracurricular

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

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

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

- Won 1st place at IEEE's Fall Competition against 30+ teams by engineering a self-playing guitar with custom laser-cut and 3D printed parts, programming a note transcriber algorithm to map musical inputs to precise 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, Postgres
Languages: Python, SQL, R, React, TypeScript, Java, C++