

# ISSAC ROY

San Diego, CA 92129

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## Education

University of California San Diego (4.0 GPA)

June 2027

B.S. Data Science | Math Minor | Cognitive Science Minor

San Diego, CA

## Experience

Neurocrine Biosciences | Data Engineer Intern

June 2025 – September 2025

- Architected, developed, and deployed containerized cloud-based web scraper to save \$200k+ in operating expenses.
- Operationalized AI models to transform patient data into study-specific narratives, streamlining reporting and decision-making for study teams.
- Deployed scalable data pipelines with AWS Lambda, Terraform, and Power BI dashboards used by study teams.

Data Science Student Society (DS3) | Director of Software

October 2024 – Present

- Lead a 10+ member software team, introducing Agile methodologies to improve planning, collaboration, and delivery.
- Directed the design, development, and deployment of full-stack websites for UCSD clubs, bridging coursework with real-world applications.
- Organized and led technical workshops on cloud computing, containerization, web development, Terraform, and Git, training 200+ students on industry-standard tools.

San Diego Taxpayer's Association | Data Science Intern

October 2024 – January 2025

- Built social media scraper to collect public sentiment data on county policies, contributing to a sentiment analysis tool for taxpayers and policymakers.

## Projects

OnlyDance | OpenCV, ModelPipe, React, 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.

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.

YipYap, the Chat App for Yappers | React, MongoDB, Express, SocketIO, TypeScript, Figma

August 2024

- Developed and deployed a full-stack chat application enabling real-time communication through SocketIO with a MongoDB and Express.js backend.
- Designed user interfaces in Figma, built RESTful APIs, and integrated Minstral AI models for intelligent conversation suggestions, enhancing user engagement.
- Expanded skills in backend architecture, database management, authentication, UI/UX design, and large-scale system development and deployment.

Self-Playing Guitar | Arduino, CAD, Laser Cutting, 3D Printing

December 2023

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

## Other Involvement

SANDY Youth Group | President | San Diego Malayalee Association (SANMA)

August 2024 – Present

- Led a 30-member youth group, organizing cultural and community events with 500+ attendees, fostering teamwork and community engagement.

## Technical Skills

**Certifications:** AWS Cloud Practitioner, AWS AI Practitioner, AWS Solutions Architect Associate

**Proficient:** Python, SQL, Postgres, React, TypeScript, Linux, Terraform

**Experienced:** PyTorch, Docker, AWS, MongoDB, Java, C, C++, C#, Go, Lua