

# ISSAC ROY

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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 – Present

- Designed, developed, and deployed containerized cloud-based web scraper to save \$100k+ in operating expenses.
- Operationalizing study-specific AI agent/knowledge bases using existing data repository to support study teams.
- Gained extensive experience in AWS, containerization, cloud architecture, and Power BI.

Data Science Student Society (DS3) | *Director of Software*

October 2024 – Present

- Leading technical workshops on modern software tools including containerization, cloud fundamentals, web development, and Git, bridging gaps between industry practices and coursework.
- Directing the design, development, and deployment of new full-stack websites for UCSD clubs.

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*

April 2025

- Created an end-to-end ML 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 Winter 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.

## Leadership / Extracurricular

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

Summer 2024 – Present

- Elected President of a 30-member youth group, organizing monthly activities and community volunteering efforts.
- Collaborating weekly with San Diego Malayalee Association leaders to plan and organize events.

FIRST Robotics | *Software Lead* | *Westview High School*

Fall 2020 – Spring 2023

- Led a team to program autonomous tasks for FIRST Robotics, improving efficiency by 10x over the season.
- Completed over 100 hours of mentoring, contributing to the team's Regional Engineering Inspiration Award win.

## Technical Skills

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

**Languages:** Python, SQL, Java, React, TypeScript, C, C++, Go, Lua, C#

**Developer Tools:** VS Code, Power BI, MongoDB, Postgres, Postman, Figma

**Technologies/Frameworks:** Git, AWS, Docker, Express, Scikit-Learn, NodeJS, PyTorch, Linux