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**
- Architected, developed, and deployed containerized cloud-based web scraper to save $100k+ in operating expenses.
- Operationalized study-specific AI knowledge bases using existing data repository to support study teams.
- Deployed scalable data pipelines with AWS serverless functions and Power BI dashboards used by study teams.

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

Data Science Student Society (DS3) | *Director of Software* | *UCSD*   October 2024 – **Present**
- Introduced Agile methodologies to the organization, improving project management and efficiency.
- Lead 10+ students in building software solutions and technical workshops for UCSD organizations.

SANDY Youth Group | *President* | *San Diego Malayalee Association (SANMA)*   August 2024 – **Present**
- President of a 30-member youth group, organizing monthly activities and community volunteering efforts.
- Collaborated with SANMA leaders to organize cultural events with 500+ attendees.

Technical Skills

Certifications: AWS Cloud Practitioner, AWS AI Practitioner, AWS Solutions Architect Associate
Proficient: Python, SQL, Postgres, React, TypeScript, Docker, AWS
Experienced: PyTorch, Terraform, MongoDB, Java, C, C++, C#, Go, Lua