

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, contributing personally to front-end and back-end code.
- 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

Turbo 3D Engine | *C++, SDL2*

March 2025

- Developed a CPU-based 3D graphics engine from scratch with support for camera movement, lighting, texture mapping, and OBJ file parsing to render complex 3D models with realistic lighting and shading effects.
- Expanded skills in low-level graphics programming, performance optimization, and real-time rendering fundamentals.

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

August 2024

- Developed and deployed a full-stack chat app with real-time yapping using SocketIO, MongoDB, and Express.js.
- Designed user interfaces in Figma, built REST APIs, and integrated AI models for intelligent conversation suggestions.
- Expanded skills in backend architecture, DBMS, authentication, and UI/UX design.

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

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

Tools: AWS, Git, MongoDB, Jira, Confluence, Terraform, PyTorch, Docker, Linux