Ryan Liao

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Summary

Data-focused professional with a strong foundation in backend development, specializing in building scalable, data-driven systems. Experienced in automating data workflows, modernizing platforms, and integrating APIs to streamline operations, provide actionable insights, and deliver maintainable solutions.

Work Experience

Full Stack Developer   June 2024 - Present

SunnyViewTech – Instantour

- Led the full stack migration of 8-year-old C# web application from ASP.NET 5 MVC to ASP.NET Core 9, modernizing the codebase for performance, security, and maintainability.
- Refactored identity authentication, redesigned controller and view architecture, and resolved breaking changes across Entity Framework Core, models, routing, and Razor Pages.
- Consolidated multi-context database structure, resolved model compatibility issues, and wrote SQL migration scripts to preserve existing data across schemas.
- Deployed and managed updated web application on Azure Cloud and Azure SQL Server – improving startup time, deployment reliability, and long-term support.

Data Strategy Intern   June 2023 – March 2024

U.S. Bureau of Fiscal Service – Office of the Chief Data Officer

- Fully automated the Treasury savings bond transfer documentation process using Python/SQL scripts – which fetched the documentation, cleaned the raw data, categorized it into tables, and uploaded to an Access database, saving ~3 hours of daily manual work.
- Co-founded the Bureau's data exchange working group to modernize infrastructure and presented Salesforce metadata via Power BI dashboards in bureau-wide seminars.
- Built an NLP pipeline using Doc2Vec and TF-IDF to classify Salesforce ticket requests by topic and urgency, streamlining triage workflows and reducing response times.

Projects

San Diego Association of Governments – ML Activity-Based Travel Model   September 2023 – March 2024

- Trained a hyperparameter tuned decision tree classifier which predicts trip destination using 240 features from SANDAG's synthetic population – performing with an accuracy and F1 of ~72% and decreasing runtime by ~90%.

Fantasy Disc Golf Web Application   May 2025 – Present

- Developed a C# ASP.NET Core MVC web app that uses the PDGA REST API to fetch professional player statistics.
- Implemented extensive league customization features, including dynamic interactions with team and player data using custom JavaScript functions for enhanced user engagement and responsiveness.

Skills

Proficient Programming Languages: Python, SQL, R, C#, HTML, CSS, JavaScript
Cloud Platforms: Microsoft Azure, Amazon Web Services, Google Cloud Platforms, GitHub Actions
Machine Learning Libraries: Pandas, Scikit-Learn, TensorFlow, PyTorch, PySpark, Dask

Education

University of California San Diego - GPA: 3.85

Master's in Data Science (Graduating March 2026)

B.S. Data Science

Relevant Courses: Principles of Data Science, Data Structures & Algorithms, Theoretical Foundations for Data Science, Systems for Scalable Analytics, Data Analysis & Inference, Data Visualization, Recommender Systems, Representation Learning, Probabilistic Modeling & Machine Learning

Certifications: AWS Certified Machine Learning Engineer – Associate