PRIYAN RAJAMOHAN

Eligible to work in the U.S. without sponsorship | linkedin.com/in/priyan-rajamohan | github.com/priyan-coder

Summary

2+ years of experience designing and **delivering AI-driven software solutions and infrastructure** across industry and academia. Skilled in **full-stack development** with React.js, Node.js, Django, and .NET Core; **database technologies** such as PostgreSQL; and **ML frameworks** for **generative AI** apps.

Education

Case Western Reserve University — Aug 2022 – Dec 2024
Master of Science in Computer Science — *Cleveland, OH*
- GPA: 3.86/4.0
- Thesis: *From FAIR to AI-Ready: Empowering Data Stewardship and Provenance in Material Science*

National University of Singapore — Aug 2018 – Jun 2022
Bachelor of Engineering in Computer Engineering — *Singapore*
- Relevant Coursework: Machine Learning, Computer Networks, Software Engineering

Experience

National Renewable Energy Laboratory — Feb 2025 – Present
Machine Learning Engineer Intern — *Remote, USA*
- **Implemented** a **transformer-inspired encoder architecture** to leverage road features such as class and elevation over time, generating a synthetic velocity profile for each road segment in a journey.
- **Researching** other deep learning approaches, including **Physics-Informed Neural Networks (PINNs), Graph Neural Networks (GNNs)**, and time series similarity measures such as Dynamic Time Warping (DTW).
- **Enhancing** route-based energy consumption projections for multiple powertrain models using NREL's **open-source** Route Energy Prediction Model.

SDLE Research Center — Aug 2023 – Jan 2025
Graduate Research Assistant — *Cleveland, OH*
- **Engineered** a **distributed knowledge graph infrastructure** using JanusGraph and Cassandra DB, cultivating an **open-source graph data storage** and analysis ecosystem for research datasets.
- **Developed** and **published** a **Python package on PyPI** that dynamically generates ontology-based data ingestion templates and converts tabular experimental data into Linked Data, facilitating advanced reasoning.
- **Supervised** the creation of an internal OntoPortal, enhancing ontology management and reusability of existing terms.

Lawrence Livermore National Laboratory — May 2024 – Aug 2024
Data Science Intern — *Livermore, CA*
- **Implemented** a **graph-based query and visualization system** using Kuzu DB, analyzing over **15 million nodes and edges**.
- **Automated** the conversion of raw CSV data into enriched ontologies, **reducing manual effort by 70%** and accelerating research workflows, which led to the **publication of a Python package on PyPI.**
- **Researched** the application of **deep neural networks to graph data** for calculating error bounds in mechatronic responses during the Direct Ink Write process.

MRI Software — May 2023 – Aug 2023
Backend Engineer Intern — *Solon, OH*
- **Rapidly** gained proficiency in .NET on the job to create standalone software that **streamlined vendor payments**.
- **Achieved 30% time savings** for clients using MRI's real estate software by **pioneering batch processing of multiple payments** as a single transaction.
- **Revamped** database schema and **designed robust REST APIs** for payment processing, leveraging Entity Framework Core (EF core).

DBS Bank — May 2021 – Aug 2021
Full Stack Developer Intern — *Singapore*
- **Led** a cross-functional team in an **Agile environmen**t to develop a customer-centric payment application prototype, contributing to its successful **launch by DBS in 2022**.
- **Engineered** reusable **React** components, **reducing development time by 30%** and facilitating code reuse across multiple projects.
- **Implemented** state management using **Redux and Redux-Saga, improving application performance** and user experience.

Projects

RAG-based Agentic Code Creator
- **Architected** a **RAG-based** agentic platform using **ReAct agents**, **vector-store indexing**, and **Ollama LLMs** for context-aware, on-demand code generation. **Developed** a **QueryEngineTool with Llama 3.2 vector search** and a code reader module for **high-precision retrieval** across diverse data sources, **enhancing agent decision-making**.

Virtual Thrift Shop
- **Spearheaded** a team of four in developing an **e-commerce application** using MVC architecture, facilitating peer-to-peer sales of second-hand items. **Optimized** front-end **performance** by **implementing Redux** for state management, **reducing API calls by 40%**. **Implemented** secure **payment processing** and **user authentication**, enhancing application reliability and user trust.

Smart Dance Wearable
- **Guided** a group of six to construct an intelligent wearable system and brought an innovative product idea to life. **Devised** a pre-processing pipeline to **generate input vectors from real-time accelerometer and gyroscope data**. **Leveraged** a multi-layer perceptron machine learning model to **predict dance moves with 96% accuracy**.

Expenditure Tracker App
- **Managed** a team of five in developing a **desktop Java application** for personal finance management, featuring currency conversion and real-time weather updates. **Ensured** high code quality with **80% test coverage** through rigorous **unit** and **integration testing**. **Deployed** the application to a **user base of 50**, incorporating feedback to enhance user experience.

Skills

Programming Languages: Python, Java, C++, JavaScript, SQL
Frameworks and Tools: PyTorch, TensorFlow, React.js, Redux.js, Node.js, Django, .NET Core, Ollama, LlamaIndex, LangFlow
Databases: PostgreSQL, JanusGraph, Cassandra DB, Kuzu DB

Publication

Rajamohan, Balashanmuga P., et al. "Materials Data Science Ontology(MDS-Onto): Unifying Domain Knowledge in Materials and Applied Data Science." **Scientific Data**, vol. 12, no. 1, 2025, pp. 1-16, https://doi.org/10.1038/s41597-025-04938-5.