Kausik Muthukumar

Student

April 8th, 2005 (+91) 9880838334 kaushik.80405@gmail.com SycamoreQ Kausik Muthukumar

About Me

Kausik Muthukumar is a third-year AI and Data Science student with technical expertise in Deep Learning, particularly in Graph Learning, Reinforcement Learning, and Quantum Computing. He aims to develop unique AI solutions and products using graph-based learning approaches and is seeking opportunities to apply his skills in building impactful technological systems.

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Education

Amrita School of Engineering Bangalore

B.Tech in Artificial Intelligence & Data Science August 2023 – May 2027

- CGPA: 7.9

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Projects

Epidemic Simulator github.com/SycamoreQ/EpidemicSimulator

Developer July 2025 – Present

- Implemented a real-time, scalable epidemic prediction software using the Double Deep Q-Network (DDQN) Reinforcement Learning algorithm in Scala.
- Utilized Apache Spark for big data input, Spark Streaming, and Weights & Biases (WandB) for real-time visualization.

rust-graph github.com/SycamoreQ/rust-graph

Developer September 2025 – Present

- Implemented a graph library in Rust with support for Graph Convolutional Networks (GCN), Graph Attention Transformers (GAT), and Dynamic Graphs.
- Utilizes candle.rs , petgraph and ndarray libraries for deep learning and graph operations.

ResearchBot github.com/SycamoreQ/5glab

Developer December 2025

- Developed a RAG model trained on the DDQN algorithm to retrive research papers from a Knowledge Graph database.
- Trained the model over a distributed cluster of GPUs using Ray.io.

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Other Projects

- **Vison Model** – Hypergraph Transformer model for image classification using PyTorch.
- **Cloud Native Web App** – Contributed to a cloud-native app gated behind a load balancer and reverse proxy.
- **Query Scheduler** – Custom Query Scheduler based on Query Retrieval Depth written in Rust.

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Skills

Languages	**Python**, **Rust**, **Scala**, GoLang, Java, Cypher
Libraries / Frameworks	**PyTorch**, candle.rs (Rust DL Library), Gin (Web Framework), Scalapy, Ray.io, Apache Spark, Neo4j
Software / Tools	**Docker**, **Kubernetes**, **CUDA**, Git, LaTeX, Typst
Core Areas	Artificial Intelligence, Deep Learning, Graph Neural Networks, Reinforcement Learning, Quantum Computing