Priyadarshini Tamilselvan

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EDUCATION

M.S. in CS, Georgia Institute of Technology, Atlanta, Georgia — Aug 2024 - Dec 2025
B.E. in CS, PSG College of Technology, Coimbatore, India — June 2015 - May 2019

SKILLS

Languages: Python, Java, JavaScript, SQL, Go, Rust, TypeScript, C, Bash, HTML, CSS
Frameworks & Tools: React, Next.js, Android, Spring Boot, Hibernate, Keras, TensorFlow, Flutter, Redux, Node.js, OpenCV, PyTorch, Bootstrap, jQuery, IsaacLab, IsaacSim, YOLO, Hugging Face, Crew AI, MLflow, Docker, Kubernetes, TensorRT, CUDA, Unity, Azure, Docker, Git, Confluence, Nginx, Firebase, Tableau, Postman, Selenium, Figma, Jenkins

RESEARCH EXPERIENCE

Agentic DataOps (Ongoing - IBM): Automating Semantic Data Product Generation via NL Interfaces and Metric-Driven Decision Systems
Image to Grasp to Re orient (Ongoing - *PAIR Lab*): Researching dexterous manipulation using Reinforcement Learning with *Prof. Animesh Garg*, aiming to enhance robotic manipulation.
Computer Vision Game: Developing a Computer Vision game to assess passive haptic gloves' effectiveness in improving stroke patients' upper limb mobility and dexterity guided by *Prof. Thad Starner*. [link]
Fine-Tuned DistilBERT using LoRA: Utilised LoRA for model adaptation and fine-tuning on a sentiment analysis task for Neologisms guided by *Prof. Ling Liu*. [link]

PROJECTS

- Worked on implementing GPT-2 from scratch using Python and PyTorch, replicating its architecture, including multi-head attention, positional encodings, and feed-forward layers [Github]
- Worked on fine-tuning five different language models for neologism sentiment analysis. [Github]

PROFESSIONAL EXPERIENCE

IBM Research HQ, NY| Research Intern — May 2025 - Aug 2025

- Designed and built an Agentic DataOps platform that automates data product generation using natural language inputs, question generation, NL-to-SQL (IBM Granite), and dynamic view creation.
- Developed a metric-driven orchestration agent capable of operating in autonomous or human-in-the-loop modes to reduce manual DataOps overhead.
- Created a plug-and-play integration framework supporting major data sources including PostgreSQL, Snowflake, BigQuery, and Kafka for scalable data ingestion.
- Research demo paper is work in progress showcasing the platform's capabilities in semantic data modelling and agentic workflows.

Dealsplus Pvt. Ltd, UK | SWE - III — Dec 2022 - July 2024

- Developed an algorithm to represent complex private equity ownership data, increasing visualisation speed by 70% and driving a 40% client acquisition boost, adding $1M in revenue. Recognised for outstanding performance with the highest bonus.
- Co-led implementation of automated ownership data extraction with Azure AI tools, achieving 90% accuracy, reducing manual effort by 40%, and saving 1+ hour per deal during onboarding.
- Optimised database queries, increasing data retrieval efficiency by 38%, enabling faster, more accurate cap table outputs for improved decision-making.

Avinya Technologies, Bengaluru | Co-Founder & Senior Tech Member — April 2021 - Dec 2022

- Directed software solutions development, enabling a 70% expansion in retail outlets over two years with only a 25% workforce increase.
- Created ML algorithms to predict retail demand, reducing overstocking and working capital needs by 35%.
- Developed an Android-based POS system, reducing transaction processing time by 42%.
- Designed scalable accounting solutions automating bank reconciliation reducing manual effort by 60%.
- Implemented a task management system, improving employee coordination, operational efficiency by 40%.

D.E. Shaw & Co, Hyderabad | Member Tech - Risk Tech Team — Dec 2018 - Mar 2021

- Engineered features within a web application to help users analyse macroeconomic effects on investments, improving decision-making efficiency by 35%.
- Designed workflows for analysing monthly and currency exchange position sets, reducing portfolio comparison time by 20%.
- Built efficient REST APIs for time series analysis, enhancing financial risk investigations by 40% and reducing response times by 25%, through collaboration with the cache management team.
- Collaborated on rule-driven framework to automate risk data monitoring, replacing manual processes.
- Enhanced a risk portal to unify all risk management workflows, increasing operational efficiency by 20%.
- Optimised web application load times by ~1 minute, improving efficiency for users conducting risk analysis.