

Devika Rajasekar

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Education

Leiden University, Netherlands

Sep 2024 – Aug 2026¹

Master of Science in Computer Science: Data Science

Vellore Institute of Technology, India

Sep 2020 – Jun 2024

Bachelor of Technology in Computer Science Engineering (spl. in AI & Robotics)

- CGPA: 8.5/10.0

Experience

HR Digital Data Science Intern

Aug 2025 – Present

Prysmian, Delft, Netherlands

- Replaced monthly manual KPI consolidation across 53 plant-level Excel sheets with a single live Qlik Sense dashboard fed from a central data lake, that senior stakeholders across 15 countries and 4 regions read to make operational and financial decisions.
- Partnered with cross-functional stakeholders to translate business reporting needs into reusable data models, KPI definitions, and dashboard logic (variance analysis, conditional indicators), demonstrating a product-minded approach to data engineering.
- Conducting MSc thesis research on AutoML explainability: investigating whether SHAP-based feature importance explanations remain consistent across near-optimal models (the Rashomon set) produced by AutoML systems for time series forecasting.
- Built and ran reproducible experiments using AutoGluon and H2O AutoML across six real-world benchmark datasets.

Deep Learning & Image Processing Research Intern

May – Jul 2023

Centre for Cyber Physical Systems (CCPS), VIT Chennai, India

- Engineered a predictive deep learning model (AdaptUNet) for prevention of colorectal cancer; achieving segmentation accuracy to 0.9104 Dice coefficient.
- Applied cross-dataset generalisation tests and comprehensive data-validation checks; work published as first-author article [Elsevier Heliyon 2024](#).

Data Analysis Intern

Jul – Nov 2023

School of Computer Science & Engineering, VIT Chennai, India

- Designed a deep neural network in R for pulsar star classification; reaching 98% precision, 0.8749 Kappa on the HTRU2 dataset.
- Led model reproducibility and compliance checks aligned with IEEE academic QA standards, underpinning successful conference publication [Published Findings](#).

Research Assistant

Aug – Dec 2022

School of Computer Science & Engineering, VIT Chennai

- Performed an in-depth analysis of 20+ research papers, uncovering cutting-edge applications of mobile robots in crisis management; contributed to a published review impacting contemporary discourse on robotics in search and rescue operations.

Projects

paytrail: Payments Medallion Lakehouse (Databricks / Delta / Azure)

[paytrail](#)

- Built a payments medallion lakehouse on Databricks (Delta Lake, Unity Catalog): 6.3M synthetic transactions landed from Azure ADLS Gen2, modelled bronze/silver/gold into a tested star schema, deployed via Asset Bundles as a single reproducible run.
- Gated the build with 51 dbt tests and GitHub Actions CI (fail-on-bad-data), engineered idempotent, out-of-order-safe, penny-reconciled loads, and benchmarked a heavy rollup 39% faster after OPTIMIZE and Z-order.

Workplace Safety Analysis Pipeline

[workplace-safety](#)

- Built an end-to-end OSHA injury-data pipeline (Airflow, dbt, PostgreSQL, reproducible Docker setup) modelling 688K+ records into a tested star-schema warehouse with 81 automated tests and CI on every push.
- Added an LLM layer that classifies free-text incident narratives (96.5% coverage, \$0 cost, locally hosted) and a benchmark that scores it against the BLS OIICS autocoder, a recognised government classification standard, for a defensible accuracy metric.

¹Expected.

- Built a two-stage recommender on 31M H&M transactions: BigQuery SQL retrieval feeding a CatBoost ranker, reaching MAP@12 0.029, a 5.5x lift over a popularity baseline (95% CI [0.022, 0.026]), with the whole build inside the BigQuery free tier.
- Added a diversity guardrail and a per-segment fairness breakdown, quantified the accuracy-diversity trade-off (11% MAP@12 cost for a 0.70 to 0.80 intra-list diversity gain), and served top-12 through a typed FastAPI endpoint with a cold-start fallback.

Rossmann Store Sales Forecasting[rossmann-forecast](#)

- Forecasted daily sales for 1,115 retail stores six weeks ahead using a single LightGBM model, achieving 11.5% RMSPE, placing in the top 5% of the Kaggle Rossmann leaderboard (3,738 teams) and 67% better than a naive baseline.
- Engineered retail-aware features including date-aware Promo2 decoding, holiday-proximity ramps, 365-day sales lags, and per-store aggregates. Used walk-forward cross-validation to match the six-week test horizon with no future leakage.

Two-Tower Movie Recommender (MovieLens 25M)[free-lunch](#)

- Built a two-stage recommender on MovieLens 25M: Two-Tower retrieval (PyTorch, FAISS) feeding a 306-feature LightGBM ranker, reaching Recall@10 0.147 and val_auc 0.9206 over a 13,176-item catalogue.
- Added offline counterfactual evaluation (SNIPS, inverse-propensity weighting, ESS 38,280) and tuned an explicit engagement-diversity trade-off along a 12-point Pareto frontier.

All projects are live on GitHub (github.com/devika1402) and my portfolio (devikabuilds.pages.dev).

Skills

Programming Languages: Python, R, SQL

Machine Learning & Deep Learning: PyTorch, TensorFlow, Scikit-Learn, Transformers, Computer Vision, PySpark, Reinforcement Learning

Data Analysis & Visualization: Pandas, NumPy, Matplotlib, Seaborn, Power BI, Tableau, Qlik Sense, Excel

Data Engineering & Automation: Databricks, Delta Lake, Unity Catalog, dbt, Databricks Asset Bundles, Apache Airflow, Docker, Git, UiPath

Cloud Platforms & Services: Microsoft Azure (ADLS Gen2), AWS (S3, EC2, Lambda), Google Cloud Platform

Project Management & QA: Agile/Scrum, Data Validation, Requirement Gathering, User Story Creation, Stakeholder Communication, Automated Testing

Certifications:

AWS: Introduction to Machine Learning

Google Cloud: Big Data and ML Fundamentals

DataCamp: Data Engineer Professional Certificate (DE0019121449079)

Databricks: Data Engineer Associate (in progress)

Microsoft Azure: DP-900 Data Fundamentals (near completion)

Languages: English (Fluent), Dutch (Basic, A2 niveau)

Leadership & Engagement**CodeChef VIT Chennai***Jan 2023 – Jul 2023*

General Secretary

- Spearheaded recruitment initiatives, successfully attracting 500+ applicants.
- Organized coding events, workshops, and seminars to foster a vibrant coding culture.

IEEE-Women in Engineering, VIT Chennai*May 2021 – Dec 2021*

Active Member

- Advocated for women in STEM and organized professional development events, collaborating with diverse stakeholder groups.