Rahul Krishnan

Data Science Student

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 GitHub Profile | LinkedIn Profile

EDUCATION

- **Master of Science in Data Science** *Oct 2024 - Present*
  Universität Trier, Germany Grade: 1.7
- **Bachelor of Technology in Computer Science and Engineering** *2016-20*
  Amrita Vishwa Vidyapeetham, India Grade: 1.37(German Scale; Rank: Top 10 in cohort)

SKILLS

Programming: Python (Pandas, NumPy, SciPy, Matplotlib), SQL, Java, R
Machine Learning & Deep Learning: PyTorch, TensorFlow, Scikit-Learn, Keras, Transformers, Hugging Face
DevOps & Deployment: Docker, FastAPI, Flask, GitHub Actions, Azure (Container Apps), REST APIs
Big Data & Databases: Spark, Hadoop, MySQL, PostgreSQL, SAP HANA
Concepts: Natural Language Processing (NLP), Computer Vision, Feature Engineering, Model Evaluation, Probability & Statistics, Supervised & Unsupervised Learning
Version Control: Git, GitLab
Soft Skills: Agile (Scrum), cross-functional collaboration, technical documentation, fast learner, independent & proactive
Languages: English (Fluent), German (Intermediate)

PERSONAL PROJECTS

- **Amazon Electronics Recommender System**
  Sept 2025
  - Implemented and deployed an end-to-end recommendation system on the Amazon Reviews 2023 Electronics dataset (41K users, 137K items, 391K interactions), integrating collaborative filtering, metadata, and SBERT text embeddings.
  - Built a scalable two-stage pipeline using FAISS for candidate retrieval and MLP re-ranking, achieving sub-100ms inference latency per request on CPU.
  - Improved recommendation quality (NDCG@10 from 0.305 → 0.334) using a Two-Tower MLP with text features, validated through multi-seed experiments.
  - Containerized and served via REST API on Azure Container Apps with Docker and FastAPI, and published a reproducible Docker Hub image.
- **Transformer-Based Sentiment Analysis of YouTube Comments**
  Jun 2025
  - Achieved 0.81 F1 score on an imbalanced dataset of 10,000+ YouTube comments using a fine-tuned BERT model.
  - Developed a Python Flask API with HTTPS POST method to serve real-time sentiment predictions, simulating a production ML pipeline.
  - Containerized the application using Docker for seamless deployment across platforms.
  - Automated CI/CD with GitHub Actions to build and push Docker images to Docker Hub on repository updates.

EXPERIENCE

- **Software Developer** *Mar 2024 - Sep 2024*
  SAP Labs India Pvt. Ltd Bengaluru, India
  * Designed a rule-based content-matching framework for eInvoices, reducing country-specific implementation efforts by 70%.
  * Pioneered a pagination-based data retrieval algorithm that improved system efficiency by reducing SAP queries from 10,000 eInvoices per request to all eInvoices in 1 request.
- **Associate Software Developer** *July 2020 - Mar 2024*
  SAP Labs India Pvt. Ltd Bengaluru, India
  * Led critical legal and feature updates for Document Compliance tax solutions from design to development.
  * Overhauled the error-handling capabilities of SAP DRC solution for Turkey, reducing customer incidents by 80% and improving customer satisfaction by 66%.
  * Spearheaded the integration of Data Protection and Privacy (DPP) protocols into the SAP Document Consistency solution, ensuring secure data handling and full compliance with global privacy regulations.

PUBLICATIONS

- **Glaucoma Detection from Retinal Fundus Images** ICCSP 2020 *2020*