RISHIRAJ GIRMAL

✉ rgirmal@umass.edu | 🔗 rishirajgirmal | 🌐 rishiraj-rpg.github.io | 🐙 rishiraj-rpg | 📞 (413) 409-1436

EDUCATION

University of Massachusetts Amherst *Expected Graduation: May 2027*
Master of Science in Computer Science
- **Courses:** Advanced NLP, Trustworthy & Responsible AI, Systems for Data Science

University of Mumbai, India *July 2019 – May 2023*
Bachelor of Engineering in Computer Engineering *CGPA: 9.44/10*
- **Courses:** ML, AI, NLP, Deep Learning, Data Structures, Algorithms, OS

EXPERIENCE

Barclays Bank PLC **Pune, India**
Software Developer 2 (BA4) **March 2025 - July 2025**
- *Liro FX Rates:*
- Eliminated upstream dependency by developing Python, Shell and Autosys pipelines to directly ingest **36000+ quarterly Market FX rates** rows for **424 currency pairs** using QAROSTpy(Quantitative Analytics library), reducing external dependency and ensuring daily data availability.
- Built **secure** UAT/PROD Linux servers with **Kerberos + CyberArk IAM**, ensuring compliance and controlled privileged access.

Software Developer 1 (BA3) **July 2023 - February 2025**
- *Analytical Review:*
- Designed, developed & tested PL/SQL procedures, functions, views, packages, tables & related constraints for **Banking & Trading** Pre-Ledger, Post-Ledger & Exception Drilldown **BS & IS reports**.
- *AE Tool Decommission:*
- Migrated legacy AE Tool to FORT with **US GAAP/IFRS** compliance, moving DB objects & historical data.
- Optimized insert-heavy scripts using cursor-based tuning, **improving performance latency by 40%**.
- Developed **Autosys jobs** & conducted technical reconciliation to validate functionality post-migration.
- Finance usecase: Implemented AutoARIMA, FbProphet, LSTM for time-series anomaly detection.
- Other: Coordinated monthly releases, authored documentation, and conducted KT sessions.

Takeuforward — *0.85 million+ YouTube subscribers* **Remote**
Member of Technical Staff Intern **December 2021 - February 2022**
- Published **14+ technical articles** (C++, Java, Python) for DSA problems, driving community learning.

PROJECTS

- **Privacy-Preserving Image Captioning**: **Federated learning** based image captioning system (BLIP) simulating IID/Non-IID clients, analyzing accuracy gaps and high communication cost (90 GB).
- **Diablo**: **fully-integrated ML pipeline** for diabetes classification using a Random Forest model.
- **EnrichIQ**: AI-powered enrichment platform to automate financial data corrections, with potential to **save 3000+ hours annually** across **180 IB entities**. **Barclays GenAI '25 Hacks**
- **PIXEMO**: Social media app for automatic caption + emoji generation using **encoder–decoder** models, GloVe, transfer learning, and LSTMs.

SKILLS

Programming: Python, C++, C, PL/SQL, Shell Script, JIL
Frameworks: PyTorch, TensorFlow (Keras), Flask, Django
Databases: Oracle Exadata, Sqlite, MongoDB
Tools: Git, MLflow, DVC, Dagshub, Streamlit, UNIX, AutoSys, Microsoft Azure AI

PUBLICATIONS

Rishiraj Girmal*, V. Ambhire, PIXEMO: Captioning Images Along with Emojis for Social Media Applications, International Conference on Recent Advancements in Artificial Intelligence 2023