Ashish Thomas Chempolil
Machine Learning Engineer

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github.com/agno-nymous

WORK EXPERIENCE

Machine Learning Engineer   May 2023 – present | Remote, Canada
Katalyst Data Management 🔗

- Optimised keyword matcher with RapidFuzz; cut latency **10 min → 10 s** (60 ×).
- Engineered BERT-embedding + XGBoost classifier; synthetic page-mixing hit **95 % F1** on a small corpus.
- Solved long-page TIF OCR splits by clustering text-box anchors, lifting extraction accuracy **10 %**.
- Built AI-powered OCR extraction **backend** feeding existing UI; throughput **5 ×** (150 → 750 docs/week)
- Deployed cAdvisor + Prometheus alerts (- < 60 s container-down detection) across 20 + Docker nodes.
- Bench-tested GPT-4o, Claude 3.5, Llama 3 & Gemma; validated in-house stack's **92 % vs 75 %** accuracy edge.
- Integrated vision-LLM layer (Qwen-VL & Gemma 3, 4-bit) in vLLM; dynamic Pydantic schemas return JSON in **≈ 7 s/page**.

Associate Machine Learning Developer (Internship)   May 2022 – Aug 2022 | Calgary, AB
AltaML

- Built a hierarchical model based on the proximity matrix to group similar alarms and reduce redundant alarms.
- Reduced redundant alarms by 40%, which resulted in improved plant safety and overall operational efficiency.

Data Analyst (Co-op)   Nov 2021 – Dec 2021 | Kingston, ON
St. Lawrence College

- Updated the PowerBI dashboard using DAX and PowerQuery, resulting in a more user-friendly interface and easier access to data.
- Automated a manual process using python, reducing the time required to update the data by 90%, increasing efficiency and freeing up valuable time for other tasks.
- Developed a market strategy plan for improving the customer base in Brazil, with a focus on increasing revenue and market share in the region.

SKILLS

Python: *numpy, pandas, scikit-learn, seaborn, matplotlib, plotly, TensorFlow, pytorch, nltk, OpenCV, XGBoost, LightGBM*, **R**, **SQL**, **Statistical Analysis:** *Hypothesis Testing, Correlation Analysis, Principal Component Analysis*, **Machine Learning:** *K-Means Clustering, SVM, Decision Trees, Random Forest, KNN, Linear Regression, Logistic Regression, Gradient Boosting Decision Trees, XGBoost, LightGBM, Recommender Systems*, **Deep Learning:** *Neural Networks, Computer Vision, Natural Language Processing*, **Data Visualization:** *Tableau, PowerBI, Streamlit*, **Soft Skills:** *Communication, Collaboration, Team Management, Problem Solving, Time Management, Attention to Detail*, **Javascript**, **HTML**, **CSS**

EDUCATION

Business Analytics   Kingston, ON
St. Lawrence College
- GPA: 3.9/4.0, Graduated top of the class
- Relevant Coursework: Financial Analytics, Marketing Analytics, Business Strategy, Applied Artificial Intelligence and Machine Learning, Operation Analytics, Statistical Analysis, SQL and Data Management, Data Acquisition & Modelling Techniques

Chemical Engineering   Calicut, India
National Institute of Technology - Calicut
- Graduated with First Class