

DHANUPRIYA A
PYTHON AND ML DEVELOPER

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 https://pythonmlclub.github.io/Portfolio_Dhanu/

PROFESSIONAL SUMMARY

Python/AI Developer with **3 years of experience** building intelligent search applications and creating significant solutions in the fields of enterprise search, healthcare, and surveillance. Led end-to-end development of face recognition-based attendance systems and LLM-powered analytics platforms that enhanced decision-making. Strong background in automating unstructured data pipelines, document intelligence, and real-time anomaly detection using modern AI and cloud architectures. renowned for creating user-focused, safe, and scalable solutions that combine cutting-edge data engineering and machine learning with business requirements.

WORK EXPERIENCE

Python/ML Developer - Texila Educare Healthcare and Technology Enterprise Pvt., Coimbatore May2025 – Present

- leading the creation of an AI-powered system for tracking staff attendance that makes use of facial recognition and real-time CCTV footage. Created a prototype that included FAISS for fast similarity matching, ArcFace for feature embeddings, and YOLOv8 for face identification.
- To guarantee precise and effective identity verification, deduplication logic, CSV-based audit logging, and improved frame handling were designed.
- The functional sample model has been successfully finished, and live stream stability and system resilience are presently being improved for full-scale implementation. Intended to increase the accuracy of attendance, save manual labor, and update workplace security using smart video analytics.

Python/ML Developer - PBS Info Systems Pvt Ltd, Madurai Jan 2024 – Apr 2025

- Document AI Pipeline Automation:** The first-ever real-time Doc AI ingestion and validation ETL pipeline coupled with Snowflake was conceptualized and constructed no previous implementation had been done.
- Implemented a complete Document AI pipeline to ingest, extract, and validate critical business data from vendor PDFs using Snowflake and custom-trained AI models.
 - Streamed unstructured documents from Snowflake stages, applied intelligent extraction, and routed data through metadata-driven validation for downstream use.
 - Enabled business users to monitor document states, manage retries, and control model thresholds via a Streamlit-powered LiveView interface for operational transparency. **Document AI Pipeline GitHub.**
- ✓ Published by Snowflake in their official Quickstart guide: **Document AI Pipeline Automation – Snowflake Quickstart**

Enterprise Knowledge Search Platform using Snowflake Cortex and Generative AI:

- Architected a hybrid semantic search solution leveraging Snowflake Cortex Search and Arctic Embed to enable intelligent discovery across structured and unstructured enterprise books data.
- Built a Python UDF using LangChain to extract and chunk content from PDFs, Excel, and CSV files optimizing it for semantic retrieval and storing it in Snowflake.
- Developed a Streamlit-based generative AI search interface that enables natural language querying over indexed content, delivering real-time, context-aware search results to users. **Cortex Search GitHub.**

Snowflake Cortex Analyst - LLM Based Text-to-SQL:

- Empowered users to access complex medical and book dataset datasets by designing a Streamlit interface for Snowflake Cortex Analyst. It allows users to interact with a large language model (LLM) to generate SQL queries based on text input, tightly integrated with the Snowflake data ecosystem . **Snowflake Cortex Analyst GitHub.**

Cortex Agent (FastAPI + React):

- Created a safe AI assistant platform , a enterprise-grade AI assistant using FastAPI and React, integrating Snowflake Cortex Agent for natural language to SQL generation across farm, business, property, and customer data domains.
- Implemented JWT-based OpenAPI authentication, YAML-driven schema routing, and real-time chart rendering with Rechart —empowering users with an interactive, secure, and intelligent analytics interface. **Cortex Agent GitHub.**

Time-Series Anomaly Detection and Forecasting Platform in Snowflake:

- Developed and deployed unsupervised and supervised anomaly detection models using Snowflake’s native ML functions to identify payment irregularities across buildings.
- Created end-to-end pipelines for time-series forecasting, model training, anomaly detection, and evaluation directly within Snowflake using SQL-based orchestration.
- Enabled reliable and scalable monitoring of operational datasets by storing results in Snowflake tables and comparing model performance across labeled and unlabeled data scenarios. **Anomaly Detection GitHub.**

Python-Based ETL and Scalable Data Processing with Airflow & Azure:

- Designed and orchestrated large-scale ETL pipelines using Apache Airflow to schedule ingestion and processing of massive datasets, storing outputs in Azure Blob Storage.
- Engineered chunk-based file processing for Parquet and JSON formats to efficiently handle high-volume records, reducing memory load and enhancing throughput.
- Flattened complex nested JSON structures to enable seamless querying and visualization in Snowflake

Junior Python Developer - Dot Com Infoway Ltd., Madurai

Sep 2022 – December 2023

AI-Powered ChatBot :AI Chatbot for Women's Safety and Health:

- Developed an AI-powered chatbot using Django, NLP, and OpenAI’s LLM to respond exclusively to women-focused queries related to safety and health.
- Integrated keyword mapping and topic filtering to restrict responses to relevant domains, ensuring responsible AI behavior.
- Enabled voice-to-text input for improved accessibility, supporting inclusive interaction for non-technical and disabled users.

AkshayaIndia Website – Email Delivery Issue Resolution:

- Identified and resolved critical SMTP configuration issues that were blocking outbound emails to customers. Successfully restored email functionality, improving customer communication and enhancing the overall user experience during audit compliance.

ImageUpscale Platform :

- Built an intelligent image enhancement solution that converts low-resolution images into 2×/4×/8× high-quality outputs using OpenCV, NumPy, and deep learning.
- Implemented models such as EDSR (Enhanced Deep Super-Resolution) – good for accuracy-based upscaling ,the upscale image without loss of sharpness or detail.

EDUCATION

THE AMERICAN COLLEGE, MADURAI

- Master of Computer Applications | 2019 – 2022 | - 79%

E.M.G. YADAVA WOMEN'S COLLEGE, MADURAI

- Bachelor of Computer Applications | 2016 – 2019 | - 79%

ACHIEVEMENT

- Recognized for successfully implementing Enterprise Search at PBS Info Systems. Published an article on the Transforming Enterprise Search with AI Using **Snowflake Cortex Search “Medium”**.
- In 2023, I obtained the "New Technology Enthusiastic" award from DCI Company
- I won the "Academic Proficiency Certificate of Merit Award" at E.M.G. Yadava Women's College in 2019.

SKILLS & COMPETENCIES

Programming Language : Python

Machine Learning & AI:

- ML Algorithms : Classification, Regression, Forecasting
- AI Concepts : NLP , LLM Integration, Document AI,

Hybrid Search

- Anomaly Detection : Time-Series, Rule-Based &

Unsupervised Models

- **Snowflake ML:** Cortex Agent, Cortex Analyst, Cortex Search, Cortex Complete
- **AI Concepts:** NLP, LLM Integration, Document AI, Face Detection & Recognition
- **Facial Recognition:** YOLOv8 (detection), ArcFace (embedding), FAISS (vector similarity search)
- **ETL & Data Pipelines:** Apache Airflow, Parquet, Chunk Handling, JSON Flattening
- **API Development:** FastAPI, OpenAPI, JWT
- **Web Development:** Streamlit, Django , React (basic)
- **Visualization & Dashboards:** Real-time Charts
- **Databases:** SQL, MySQL, Snowflake
- **Cloud platform:** Azure Blob Storage

Computer Vision & Video Analytics:

- Live CCTV Stream Processing
- Real-time Face Recognition for Surveillance
- CSV Logging, Frame Optimization, Deduplication Logic

DEVELOPMENT TOOLS

- Visual Studio Code
- Jupyter Notebook
- Google Colab
- Apache Airflow (workflow orchestration)
- Streamlit (UI development for analytics apps)