

DHARANIDARAN A

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PROFESSIONAL SUMMARY

I am a dynamic IT professional with over 5+ years of diverse experience in the technology industry. I excel in Flask development for both frontend and backend, bringing seamless integration and robust functionality to web applications. My expertise extends to AI and ML, where I specialize in Named Entity Recognition (NER) models, delivering intelligent insights and data-driven solutions. With a strong background in API integration and database management, I am adept at creating efficient and scalable systems that drive innovation and success.

EDUCATION

Jeppiaar Engineering College - Chennai.

Bachelor of Engineering in Computer Science

Aug 2014 – May 2018

EXPERIENCE

WinVinaya InfoSystems, Bangalore

Position: Senior Technical Lead

Duration: August 2024 – Present (8 months, Ongoing)

Title: Flutter-Based Landmark Recognition App with Indian Sign Language Integration

Description: Led the development of a cross-platform mobile application (Ynikee) to enhance accessibility for the hearing and speech impaired. The app allows users to upload or capture images, recognize landmarks using Google's AI services, and receive information through Indian Sign Language videos. It also provides recent searches and suggestions based on user location.

Roles & Responsibilities:

- Developed a Flutter-based MVP for Android (iOS version under development).
- Integrated Google Vision API and Landmark API to analyze captured or uploaded images.
- Implemented Flask Blueprint APIs and PostgreSQL for backend processing and data storage.
- Utilized OpenCV for advanced image recognition preprocessing.
- Built location-based features to suggest nearby famous landmarks.
- Delivered Indian Sign Language video content for each recognized landmark.
- Enabled recent search history tracking within the app.

Technologies Used: Flutter, Google Vision API, Google Landmark API, Google Search API, OpenCV, Flask Blueprint, Flask-Migrate, PostgreSQL

WinVinaya InfoSystems, Bangalore

Position: Senior Technical Lead

Duration: May 2024 – July 2024 (3 months)

Title: AI-Powered Mailbox Monitoring and Cleanup Agent

Description: Designed and developed an intelligent mailbox monitoring system that fetches user credentials from a secure database, tracks mailbox storage in real time, and triggers alerts or cleanup suggestions using AI.

Roles & Responsibilities:

- Built backend services using Flask Blueprint APIs and PostgreSQL for mailbox data management.
- Fetched and monitored mailbox data using IMAP and custom connectors.
- Implemented alert system to notify users when mailbox usage exceeds thresholds.
- Integrated deepseek-r1:8b via Agno agent to suggest which emails to delete when storage is critical.
- Automated monitoring of all mailbox folders across multiple users.

Technologies Used: Flask Blueprint, Flask-Migrate, PostgreSQL, Agno Agent, deepseek-r1:8b

WinVinaya InfoSystems, Bangalore

Position: Senior Technical Lead

Duration: February 2024 – April 2024 (3 months)

Title: AI-Driven Stock Analyzer and Investment Recommender

Description: Developed a beginner-friendly AI system to assist users in selecting the right stocks based on financial filters and investment budget. The system provides stock insights and 10-year growth projections using large language models.

Roles & Responsibilities:

- Created backend services in Flask and frontend UI using Tailwind CSS.
- Used yfinance and Pandas for fetching and processing real-time stock data.
- Implemented filters based on PE ratio, PEG ratio, P/B ratio, and percentage change.

- Built grid/table views for comparative stock visualization.
- Integrated Agno agent with deepseek-r1:8b and LangChain for AI-based investment recommendations.
- Generated 10-year conservative and optimistic growth scenarios for each recommended stock.

Technologies Used: Flask, Tailwind CSS, yfinance, Pandas, NumPy, Agno Agent, deepseek-r1:8b, LangChain, Ollama LLM

WinVinaya InfoSystems, Bangalore

Position: Senior Technical Lead

Duration: April 2022 – Present (Ongoing)

Title: Cloud-Based Data Warehouse and Power BI Reporting for Project Insights

Description:

Developed a data warehouse solution using Databricks to process and store large-scale project data, enabling efficient analytics and reporting. The system integrates multiple data layers, including a multihop data warehouse model, data marts optimized for Power BI consumption, and Row-Level Security (RLS) and Role-Based Security (RBS) for controlled access. Additionally, the data is fetched through the Kong API Gateway, ensuring secure and scalable API management. The final solution includes the publication of interactive dashboards for real-time decision-making.

Roles & Responsibilities:

- Data Warehouse Creation: Designed and implemented a multihop data warehouse model in Databricks, ensuring optimized storage and processing of large datasets.
- Data Transformation and Processing: Transformed raw data into structured formats using Databricks, performing necessary transformations and aggregations before storing it in the data warehouse.
- Data Mart Layer for Power BI Consumption: Created a data mart layer optimized for Power BI consumption, enabling seamless data integration and visualization for business users.
- API Integration: Replaced Rally API with Kong API Gateway for secure and scalable data fetching. Managed data retrieval and ensured robust API management.
- Row-Level Security (RLS) & Role-Based Security (RBS): Implemented RLS to restrict data access based on user roles and RBS for enhanced security, ensuring that users only have access to data relevant to their responsibilities.
- Dashboard Publication: Published interactive Power BI dashboards, offering real-time insights into project status, milestones, and KPIs. Enabled easy data exploration and decision-making for stakeholders.
- Performance Optimization: Optimized the data processing pipeline to handle millions of records efficiently, ensuring timely data availability for reporting and analytics.

Technologies Used: Databricks, Power BI, Kong API Gateway, RLS, RBS, Azure Data Lake, SQL, Pandas, Python, Databricks Delta, Azure Synapse, Power BI REST API

WinVinaya InfoSystems, Bangalore

Position: Senior Technical Lead

Duration: April 2023 – September 2023

Title: Web-Based Report Integration with Power BI API for Healthcare Analytics

Description: Developed a web-based application for Health Asyst to streamline the viewing and management of reports across various hospitals. The application integrated Power BI API to seamlessly embed and manage reports, providing healthcare professionals with efficient access to data and enabling actionable insights for decision-making.

Roles & Responsibilities:

- Database Management: Led the management and maintenance of the PostgreSQL database, ensuring data integrity, accessibility, and efficient query performance.
- Authentication & Authorization: Designed and implemented secure authentication mechanisms and role-based access controls (RBAC) to ensure authorized report access based on user roles.
- Power BI API Integration: Integrated Power BI API services to embed and manage dynamic reports within the application, allowing seamless report access and interaction.
- Row-Level Security (RLS): Configured and implemented Row-Level Security (RLS) via the Power BI API to ensure that users only had access to data relevant to their roles and permissions.
- Collaboration: Collaborated with stakeholders, including healthcare professionals and business analysts, to ensure the application met functional and business requirements.

Technologies Used: Flask, React, Power BI API, PostgreSQL, Row-Level Security (RLS), Role-Based Access Control (RBAC)

WinVinaya InfoSystems, Bangalore

Position: Data Scientist

Duration: April 2021 – June 2023

Title: AI-Powered Invoice Entity Extraction System

Description: Designed and developed an advanced AI-driven invoice extraction system to automate data entry and enhance accuracy for financial operations. Leveraging state-of-the-art machine learning models and natural language processing (NLP) techniques, the system accurately captured and extracted key information from diverse invoice formats, significantly reducing manual effort and errors.

Roles & Responsibilities:

- **System Development:** Spearheaded the design and implementation of the invoice extraction system, ensuring high performance and reliability.
- **Model Utilization and Inference:** Applied SpaCy transformers and table recognition models for precise information extraction and inference across a wide variety of invoice formats.
- **Data Augmentation:** Developed and utilized data augmentation techniques to enhance model training with diverse and robust datasets.
- **Frontend and Backend Development:** Built an intuitive and responsive frontend using React JS and Chakra UI, and a scalable backend with Flask.
- **Database Management:** Managed MySQL databases to ensure secure and efficient storage and retrieval of extracted data.
- **Model Training Pipeline:** Directed the end-to-end model training pipeline, including text and bounding box annotation using Label Studio to improve system accuracy and adaptability.
- **Cross-Functional Collaboration:** Partnered with Chartered Accountants and domain experts to ensure the system complied with functional and industry standards.
- **Optimization:** Enhanced model performance through iterative training and testing, focusing on improving accuracy and minimizing processing time.

Key Achievements:

- Increased data extraction accuracy by 30% using state-of-the-art NLP models and innovative training techniques.
- Reduced invoice processing time by 50%, enabling faster decision-making and improved operational efficiency.
- Delivered a scalable and reliable solution tailored to real-world financial data challenges.

Technologies Used: SpaCy Transformer, Table Transformer, React JS, Chakra UI, Flask, MySQL, Label Studio, Python, Data Augmentation, Model Inference

WinVinaya InfoSystems, Bangalore

Position: Senior Developer

Duration: July 2022 – January 2023

Title: Memorial Tablet Booking System – Web Application Development

Description: Developed a robust web-based admin application to streamline the booking and management of memorial tablets for the Samsui Association in Malaysia. The system was designed to enhance operational efficiency and improve user experience through seamless registration and management functionalities.

Roles & Responsibilities:

- **Project Leadership:** Directed the development lifecycle of the web application, ensuring delivery of a high-quality, client-focused solution.
- **Backend Development:** Designed and implemented a scalable backend using FastAPI and Python, enabling efficient data processing and application performance.
- **Frontend Development:** Built an intuitive and responsive user interface using Chakra UI, delivering an exceptional user experience for managing bookings.
- **Database Management:** Engineered a secure PostgreSQL database system to manage booking information efficiently and reliably.
- **Feature Development:** Implemented core features, including member registration, tablet position management, and layout configuration, tailored to client requirements.
- **Collaboration and Deployment:** Coordinated with stakeholders to refine functionalities and utilized GitLab for version control and seamless deployment.

Technologies Used: FastAPI, Python, Chakra UI, PostgreSQL, GitLab

WinVinaya InfoSystems, Bangalore

Position: Data Scientist

Duration: April 2021 – June 2022

Title: AI-Powered Data Automation and Digitization Solutions

Description: Spearheaded the development of AI-powered solutions to automate data extraction, processing, and transcription tasks for clients across diverse industries. Leveraging advanced machine learning models, AWS services, and custom algorithms, the projects significantly improved data management efficiency, accuracy, and scalability.

Roles & Responsibilities:

- **Leadership and Collaboration:**
 - Led cross-functional teams to deliver high-impact solutions tailored to client-specific requirements, ensuring timely and efficient project execution.
 - Collaborated with stakeholders to identify key challenges and design innovative data processing workflows.
- **AI/ML Model Development:**
 - Designed and implemented custom machine learning models, including SpaCy transformers and Section Identifier models, for automating form and table data extraction.
 - Directed model training processes with text and bounding box annotations, using tools like Label Studio for optimized performance.

- **Data Processing and Automation:**
 - Automated table data extraction and form digitization using AWS Textract (Analyze Document and Detect Document APIs), significantly reducing manual intervention and improving data accuracy.
 - Developed a desktop application to transcribe audio data to text using Google Vision API, streamlining data entry processes.
- **Scalable Solution Design:**
 - Built robust, scalable backend systems using Python and Flask to handle large-scale data processing workflows.
 - Ensured secure and efficient data storage and retrieval by designing PostgreSQL and MySQL database solutions.
- **User Interface Development:**
 - Created user-friendly interfaces using Tkinter and Chakra UI, facilitating seamless interaction and improved user experience.

Key Achievements:

- Reduced manual data entry workload by 75% through AI-driven automation.
- Improved document processing accuracy by leveraging AWS Textract APIs for structured data extraction.
- Delivered scalable solutions that enhanced operational efficiency for industries such as water utilities, energy services, and academic research.

Technologies Used: SpaCy Transformer, AWS Textract, Google Vision API, Python, Flask, Chakra UI, PostgreSQL, Label Studio

Freelancer

Position: Data Engineer

Duration: June 2020 – March 2021 (10 months)

Title: Data Pipeline Development and Optimization for E-Commerce Analytics

Description: Designed and implemented scalable data pipelines to process and analyze transactional data for an e-commerce platform, improving insights into customer behavior and sales trends. Focused on data transformation, storage, and visualization to support data-driven decision-making.

Roles & Responsibilities:

- **Data Pipeline Development:** Built ETL pipelines using Apache Airflow and Python to automate data extraction, transformation, and loading processes.
- **Data Warehousing:** Designed and optimized schemas in Amazon Redshift to support efficient data storage and querying.
- **Data Transformation:** Utilized Pandas and PySpark for cleaning and transforming raw transactional data into a structured format.
- **Visualization:** Integrated pipelines with Tableau dashboards to deliver real-time analytics for stakeholders.
- **Performance Optimization:** Monitored and optimized pipeline performance, reducing processing time by 30%.

Technologies Used: Apache Airflow, Python, Amazon Redshift, Pandas, PySpark, Tableau

Freelancer

Position: Data Engineer

Duration: September 2019 – May 2020 (9 months)

Title: Predictive Maintenance Dashboard for Manufacturing Equipment

Description: Created a basic dashboard to monitor manufacturing equipment health and predict potential maintenance needs. The system processed historical equipment data and visualized key metrics to assist in maintenance planning.

Roles & Responsibilities:

- Collected and processed historical sensor data from CSV files.
- Built a simple predictive model using regression techniques to identify maintenance needs.
- Designed a user-friendly dashboard using Flask to display equipment health metrics.
- Automated daily data updates to ensure the dashboard remained current.

Technologies Used: Python, scikit-learn, Flask, Pandas, Matplotlib

Freelancer

Position: Data Engineer

Duration: January 2019 – August 2019 (8 months)

Title: Customer Segmentation and Recommendation System for Retail

Description: Developed a customer segmentation and recommendation system to enhance personalized marketing campaigns for a retail company. The project utilized clustering algorithms and collaborative filtering techniques.

Roles & Responsibilities:

- **Customer Segmentation:** Applied K-means clustering to group customers based on purchase patterns, improving marketing strategies.
- **Recommendation Engine:** Built a collaborative filtering-based recommendation system using matrix factorization techniques.
- **Data Preprocessing:** Cleaned and transformed customer transaction data using NumPy and Pandas for accurate analysis.
- **Visualization:** Created detailed visualizations using Matplotlib and Seaborn to present segmentation and recommendations to stakeholders.

- Collaboration: Worked with marketing and sales teams to align recommendations with business goals.

Technologies Used: Python, NumPy, Pandas, scikit-learn, Matplotlib, Seaborn

TECHNICAL SKILLS

Primary Skills: Python, Java Script

Secondary Skills: HTML, CSS, Bootstrap

Frontend Tools: Shopify, Vix, WordPress

Framework: Flask, Fast API, React Js, Chakra UI

Database: PostgreSQL, MySQL, SQL Server

AWS Services: EC2, Textract API, LightSail, Redshift, S3, CloudWatch, Lambda

API: Web API, Kong API, Rally API, PowerBI API