

Yaswanth Kumar Singampalli

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Summary

Senior Data Engineer who doesn't just move data. I make it matter. I design scalable ETL frameworks on AWS/Azure that cut costs, ensure quality, and deliver actionable KPIs. Expert in transforming infrastructure to drive marketing strategy and CDP readiness.

Skills

- **Data Engineering & Cloud:** Informatica, IICS, SSIS, Apache Airflow, Azure Data Factory, AWS (S3, EC2, CloudWatch), Azure Databricks, Teradata, Vertica, SQL Server, SSRS
- **Programming & Scripting:** Python, SQL, C#, Java, JavaScript, C, Shell Script, HTML, CSS, PHP, Flask
- **Data & AI Technologies:** NLP, OpenCV, TensorFlow, CNN, YOLO, Data Augmentation, GPT-4, Whisper ASR
- **Tools & Platforms:** Power BI, Git/GitHub, Jira, Jenkins, Unity, ROS 2, RViz, GNSS Localization, Seaborn

Project Experience

Real-Time 3D Game Development

- Engineered 3D interactive simulations, including a single-player and a multiplayer car game with real-time networking.
- Implemented custom C# scripts, physics-based controls, interactive cameras, and multiplayer features. (Unity, C#)

Automated Audio Content Moderation System

- Created an end-to-end pipeline using Whisper ASR and GPT-4 to transcribe and analyze YouTube audio for toxicity, delivering 90%+ accurate risk scores and flagged reports; visualized sentiment trends with Seaborn heatmaps and ensured production reliability via error handling, rate limiting, and secure API key management. (Python, OpenAI GPT-4, Whisper, PyTubex, NLP, Seaborn)

AI-Powered YouTube Video Discovery Platform

- Built a full-stack React/FastAPI platform with NLP-driven semantic search, ML-powered recommendations (learning paths, trends, ratings), and 0–100% relevance scoring integrated with YouTube API, sentence-transformers, caching, and export features for scalable, production-grade video discovery. (Python, FastAPI, React, sentence-transformers, NLP)

Professional Experience

Endure Robotics

Apr 2025 - Present

Software Developer & Machine Learning Engineer

Wichita

- Built a full-stack robot control system using **Flask, JavaScript, and ROS 2**, integrating **ORB-SLAM, GNSS, and YOLO** object detection to enable autonomous navigation with real-time obstacle avoidance and adaptive path planning.
- Enabled secure teleoperation via **low-latency video streaming** and developed reusable ROS components, collaborating cross-functionally to resolve sensor fusion and communication challenges, accelerating deployment cycles.

MassMutual

Jan 2023 - Feb 2024

Senior Data Engineer

New York

- Led migration of legacy Informatica workflows to **SQL + Apache Airflow**, reducing licensing costs by 30% and improving pipeline reliability by **40% through efficient DAG design** and task dependency management.
- Architected an end-to-end ETL framework using staging tables and **AWS (S3, EC2, CloudWatch) / Azure Databricks (Spark)** for scalable data ingestion, transformation, and monitoring into **EDW/Data Marts**, ensuring data quality and timely delivery.
- Designed reusable **IICS** mappings and delivered a **Power BI dashboard** for customer growth and anomaly detection, enabling faster risk analysis and supporting marketing leadership with actionable insights.

Infosys

Jun 2020 - Dec 2022

Senior Data Engineer

United States

- Architected and optimized end-to-end ETL pipelines using **Airflow, Informatica, SSIS, and SQL**, reducing runtime by 83% through query tuning, parallelization, and indexing, enabling scalable analytics on **Teradata, Vertica, and SQL Server**.
- Automated over 50% of manual processes with **Python/shell scripts**, integrated into **Jenkins CI/CD, Git and Tivoli Scheduler**, saving 15+ hours weekly; implemented data quality checks and S3 lifecycle automation to reduce cloud costs by 15%.
- Designed robust data models and developed Power BI dashboards for real-time monitoring and KPI tracking, improving stakeholder insights by 25%; mentored junior engineers and led **DevOps** practices for reliable, auditable deployments.

Incline Inventions Pvt. Limited

Apr 2019 - Sep 2019

Software Developer Intern

Hyderabad

- Enhanced image processing for OCR and skeleton detection using hybrid thresholding (**Wiener/Sauvola filters**) to reduce noise by 40%, and improved accuracy through data augmentation (rotations/flips) and threshold-based localization techniques

Education

Wichita State University

Dec 2022 - Dec 2024

Master's, Computer Science

RVR & JC College Of Engineering

Jun 2016 - Sep 2020

Bachelor's, Computer Science

Certifications

Cloud Data Integration (CDI- IICS) Bootcamp, Infosys Certified Microsoft SSIS Developer and Python Associate, Machine Learning, Python, Data Science, LinkedIn Power BI Certifications.