

SULMAN A. KHAN

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SKILLS

Programming languages: Python, SQL (PostgreSQL, MySQL), JavaScript, HTML/CSS

Cloud Platforms: AWS, GCP, Vercel

Tools & Frameworks: Git, Docker, Terraform, Kubernetes, Apache Airflow, PyTorch, Flask, LangChain, FastAPI

Data Tools: BigQuery, Looker, Apache Spark, dbt

Domains: A/B Testing, Machine Learning, Deep Learning, Natural Language Processing, Recommender Systems, Generative AI, Prompt Engineering, Retrieval-Augmented Generation

WORK HISTORY

Nuage Software Corporation, NY

June 2024 - Present

AI/DS Consultant

- Engineered a scalable ETL pipeline on GCP using Apache Airflow to orchestrate workflows, transformed 10K+ rows of daily data via dbt and Apache Spark, optimized BigQuery storage efficiency, and built Looker dashboards to visualize insights, enabling data-driven customer churn prediction and retention strategies.
- Implemented customer churn prediction models, applying advanced feature engineering to drive actionable insights and reduce churn by 30%.
- Consulted on generative AI solution deployment using retrieval-augmented generation (RAG) and prompt engineering to automate document analysis workflows, achieving a 25% accuracy improvement in data extraction.

Fingercramp, NY

May 2018 - January 2024

Data Scientist

- Applied decision-based heuristics on player match statistics to develop a character balancing model, effectively doubling the number of characters utilized from 16 to 32 and improving overall game balance.
- Established and maintained a PostgreSQL database for match statistics, enabling complex querying across multiple tables and schemas for in-depth data analysis and reporting.
- Designed data visualization dashboards for a streaming platform, driving a 48% increase in peak viewership by improving user engagement.

PERSONAL PROJECTS

BeatDebate: An Agentic AI Music Discovery System

June 2025

<https://github.com/SulmanK/BeatDebate>

- Developed an AI music discovery app for the AgentX (UC Berkeley RDI) competition, featuring a FastAPI backend, 4-agent LangGraph workflow, and Gradio UI for explainable, conversational recommendations.
- Engineered a planning-centric multi-agent (Planner, Discovery, Genre/Mood, Judge) system that decomposes user queries into verifiable tasks, enabling a low-latency experience by minimizing monolithic LLM calls.

Concept Visualizer

May 2025

https://github.com/SulmanK/concept_visualizer

- Built an AI-powered web app that converts natural-language prompts into ready-to-use logos and color palettes, integrating a Python FastAPI backend, Supabase for authentication and storage, and a React/TypeScript frontend deployed via Vercel, delivering design prototypes in seconds.
- Provisioned a cloud-native, autoscaling stack on GCP using Docker, Terraform, and GitHub Actions; deployed the API on Compute Engine, background workers on Cloud Functions, and async tasks through Pub/Sub, with Redis-based rate limiting and CI/CD ensuring responsive UI and zero-downtime releases.

Reddit AI Pulse: Building an AI-Powered Data Pipeline

Winter 2024

https://github.com/SulmanK/reddit_ai_pulse_cloud_public

- Designed and implemented a scalable ETL pipeline on Terraform-provisioned GCP infrastructure, leveraging Apache Airflow for orchestration, GCS as a data lake, dbt and Apache Spark for transformations, and BigQuery for warehousing; automated daily processing of 1K+ AI-focused subreddit comments and ensured reliability with Grafana, Prometheus, MLflow, and Cloud Monitoring.
- Improved content analysis efficiency by 25% by deploying a multi-task NLP pipeline (RoBERTa, BART, Gemini AI) in a React-based dashboard, processing 1k+ daily Reddit discussions to generate dynamic visualizations and actionable summaries that accelerated data-driven strategy decisions.

EDUCATION

Stony Brook University, Stony Brook, NY

May 2018

Master of Science, **Electrical Engineering (Concentration in Machine Learning Systems)**

Virginia Polytechnic Institute and State University, Blacksburg, VA

May 2016

Bachelor of Science, **Materials Science and Engineering**