

Omkar Chittar

(301) 526-5726 | omkar.chittar@gmail.com | omkarchittar.com | [linkedin](https://www.linkedin.com/in/omkar-chittar) | [github](https://github.com/omkar-chittar)

PROFESSIONAL SUMMARY

Data Scientist with experience in building AI-driven systems for media, robotics, and conversational AI. Skilled in developing scalable ML and data pipelines on cloud platforms, with expertise in deep learning, computer vision, natural language processing, chatbot development, and multimodal retrieval systems.

EDUCATION

University of Maryland

Master of Engineering in Robotics & AI — 3.96 CGPA

College Park, MD

Aug 2022 – May 2024

WORK EXPERIENCE

FOX Sports

Data Scientist (through Insight Global)

Redmond, WA (Remote)

Aug 2024 – Aug 2025

- Built and maintained scalable **ETL/ELT** pipelines for a proprietary sports asset management system, integrating **multimodal data** (video, audio, metadata) and optimizing ingestion, transformation, and retrieval at scale
- Designed a multimodal vision-language stack (CLIP/SigLIP, TimeSformer, Whisper ASR, pyannote diarization) and indexed content with **FAISS/HNSW** to enable sub-second video search, improving retrieval accuracy by **30%** and reducing manual search effort by **40%**
- Automated metadata extraction, deduplication, and tagging across millions of assets using **Google Cloud Functions, BigQuery, and Python**; optimized structure and delivery for downstream analytics and reporting
- Developed a **conversational chatbot** interface with Gemini Pro that converts user prompts into **SQL** queries and powers interactive dashboards, enabling non-technical stakeholders to run ad-hoc analysis and visualize large-scale video metadata
- Applied sequence modeling (TensorFlow **LSTM**) to streaming interaction data to forecast user engagement, enabling personalized recommendations and boosting retention by **25%**

Sakar Robotics

Computer Vision Engineer

Pune, India

Jul 2019 – Jun 2022

- Trained a **7-DOF robotic arm** for pick-and-place tasks using Reinforcement Learning (**DDPG + Hindsight Experience Replay**), boosting precision by **30%**
- Built and deployed a robotic navigation system with **ROS**, combining **U-Net**-based semantic segmentation and **YOLO** object detection, improving path planning accuracy by **~40%**
- Enhanced localization by integrating Normal Distribution Transform with GPS/IMU fusion via **Kalman filters**, increasing mapping precision by **20%** and efficiency by **50%**
- Applied **PointNet** for LiDAR point cloud classification and segmentation, achieving **97%** classification accuracy and **90%** segmentation accuracy
- Utilized **NeRF** for synthesizing novel views of construction sites, enabling high-fidelity volumetric analysis and reducing manual inspection effort by **~15%**

SKILLS

Languages: Python, C/C++, MATLAB, SQL, R, HTML/CSS/JS

ML/AI Frameworks: TensorFlow, PyTorch, Keras, scikit-learn, OpenCV, PCL

Cloud & Tools: GCP, AWS, Azure, VertexAI, Docker, Git, Linux, Azure Data Factory, Databricks, Snowflake, BigQuery

Expertise: GenAI, NLP, LLMs, RAG, Prompt Engineering, NL-to-SQL, Chatbot dev, CNN, RNN, GANs, Probability/Stats, 3D Reconstruction, Firebase

LEADERSHIP AND VOLUNTEERING

Mentor for First Lego League (**FLL**), guiding students in robotics design, coding, and innovation projects since Aug 2024.

Recruitment and Retention Manager at the Department of Transportation Services, University of Maryland.

Proprietor and Teacher at SAI Classes, an educational institute for mathematics and computer science in Pune, India.

PUBLICATIONS

Chittar. O. A., Dr. Barve. S. B. Waist-Supportive Exoskeletons: Systems and Materials.

[MATPR 2022](#)

Chittar et al. Experimental investigations on waist supportive passive exoskeletons.

[MATPR 2022](#)