

Rhea Pandita

Los Angeles, California, US

Portfolio: rp-1106.github.io

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EDUCATION

University of Southern California

Aug 2025-May 2027

Master of Science in Computer Science

GPA: 3.5/4

- Courses: Analysis of Algorithms, Database Systems

Shiv Nadar University Chennai

Sep 2021-July 2025

Bachelor of Technology in Artificial Intelligence & Data Science

CGPA: 9.031/10

- Relevant Courses: Big Data Analysis, Artificial Intelligence, Machine Learning Techniques, Natural Language Processing, Deep Learning, Reinforcement Learning, Linear Algebra, Statistical Inference, Data Mining, Foundations of Data Science

EXPERIENCE

USC Center for the Neuroscience of Embodied Cognition A-Z Lab

Aug 2025-Present

Graduate Research Assistant

Los Angeles, CA, USA

- Addressing the challenge of evaluating LLMs on **causal and predictive reasoning** over human-action videos.
- Annotated a **point-light human-action video dataset** and created an **augmented supervision dataset** with structured summaries, behavior labels, and causal/future-action hypotheses.
- Plan a pipeline to **benchmark LLMs** on these causal and predictive reasoning tasks.

KPIT Technologies

Jun 2024-Aug 2024

Trainee

Bangalore, Karnataka, India

- Parsed IGES and STEP CAD files using Python, **extracting structured geometric parameters for downstream analysis** and improving data readiness for CAD automation.
- Developed Python algorithms to **classify & map 2D shapes to 3D counterparts**, enabling scalable parameter editing
- Built a dictionary of valid 2D-3D shape mappings, supporting automated geometry updates across multiple designs.

KPIT Technologies

May 2023-Aug 2023

Trainee

Bangalore, Karnataka, India

- Implemented **Stable Diffusion text-to-image pipeline** for car design, cutting sketch-to-3D from **months to weeks**.
- Built **image-to-3D mesh reconstruction workflow**, outputting .obj models for automotive prototyping.
- Delivered a proof-of-concept generative AI workflow demonstrating potential to accelerate automotive design cycles from months to weeks.

PROJECTS

AI-Assisted Personal Finance Management System

May 2024 – Apr 2025

- Developed two **RAG-based** financial chatbots leveraging **Mistral Saba 24B via GROQ API** on **4,530 transactions**.
- Iteratively refined prompts by curating a **330 question-SQL** document, improving LLM transactional reasoning accuracy
- Applied **RAG-based grounding** to the document chatbot, **reducing response time by 81% and memory usage by 33%** against **OllamaLLM Mistral**.
- SQL chatbot achieved **faithfulness 1.0, relevance 0.872** and **89% faster responses** against OllamaLLM Mistral using **RAGAS** module.

Wordle with Hints

Jan 2024-Apr 2024

- Developed a Wordle game using **BERT, KeyBERT, and DistilBERT** embeddings to generate contextualised hints
- Applied **embedding similarity and clustering** to rank candidate words based on semantic relevance
- Evaluated contextual embeddings to understand semantic relationships and keyword extraction behavior

PUBLICATIONS

T. R. Althi, V. Kothamachu, R. Pandita, "Accelerating Automotive Design: Harnessing AI Models for Efficient 3D Design and Development of Automobile Systems and Subsystems"

2023 IEEE International Transportation Electrification Conference (ITEC-India), Chennai, India, 2023, pp. 1-5, doi: 10.1109/ITEC-India59098.2023.10471378

SKILLS

Languages: Python, C, Java, JavaScript, HTML, CSS, SQL, JupyterNotebook

AI Tech: Large Language Models (LLMs), Retrieval-Augmented Generation (RAG), Transformers

Frameworks : React, Node.js, Hadoop, PySpark, Flask, Tableau, HuggingFace Transformers

Libraries : Pandas, Numpy, Matplotlib, TensorFlow, PyTorch, Keras, ScikitLearn, XGBoost, SpaCy, NLTK