Isha Manish Patel

Irvine, CA | +1 (949) 337-2324 | ishamp@uci.edu | linkedin.com/in/ishapatel1108 | github.com/Isha1108 | isha1108.github.io

EDUCATION

University of California - Irvine, Irvine, CA **Sep 2023 - Dec 2024**
Masters of Science - Computer Science

University of Mumbai, Mumbai, India **Aug 2019 - May 2023**
Bachelors of Technology - Computer Science

WORK EXPERIENCE

Data Scientist | *Engage3* **Feb 2025 - Present**

- Enhancing an AI-driven price optimization pipeline by implementing **XGBoost** for predictive modeling and **Facebook Prophet** for **time-series** forecasting, analyzing millions of competitor price points to forecast optimal pricing with a 15% increase in prediction accuracy and improve revenue optimization strategies.
- Implementing a real-time **ETL** pipeline in **PostgreSQL**, optimizing queries and reducing data retrieval time by 40%, and enabling model inference in under 500ms, ensuring faster and more accurate dynamic pricing recommendations.

Machine Learning Researcher | *UC Irvine* **Feb 2025 - Present**

- Developing and optimizing a **CNN** model in **Python** for hyperspectral Raman data analysis, leveraging **PyTorch** to accurately classify molecular components in tissue samples, achieving improved spectral feature extraction through 1D convolutional layers.
- Enhanced spectral data preprocessing by implementing Principal Component Analysis (**PCA**) and spectral normalization, reducing dimensionality while preserving key Raman spectral features, resulting in a 30% improvement in model efficiency.

Data Science Intern | *Engage3* **Jul 2024 - Sep 2024**

- Developed an AI agent using **Snowflake Cortex Analyst** to automate market data analysis reporting, reducing manual effort by 40% and generating real-time insights in natural language for strategic decision-making.
- Led the development of a Client Support **AI agent** using **Google Cloud Vertex AI** and **DialogFlow CX API**, reducing average response time by 50%, enhancing user experience and client satisfaction.
- Integrated the AI agent into the company tool, enabling real-time responses to client queries and decreasing support ticket volume by 30%, leading to increased operational efficiency.

Machine Learning Intern | *Arkision.AI* **Feb 2022 - Jun 2022**

- Developed a deep learning-based image captioning model in **Python**, achieving 87% accuracy by integrating **VGG16** for **feature extraction** and bi-directional **LSTM** for sequential caption generation, enabling automated scene description.
- Optimized model performance with **PyTorch**, leveraging pre-trained VGG16 for feature embedding and fine-tuning LSTM layers, reducing captioning latency by 40%, and deploying the system for real-time surveillance using **TensorRT**.

SKILLS

- ***Programming languages*:** Python, C++/C, Java, R, HTML5, CSS3, JavaScript
- ***Frameworks and Libraries:*** Flask, NumPy, Pandas, PyTorch, TensorFlow, Keras, Sci-Kit Learn, OpenCV, PySpark
- ***Databases and Tools:*** MySQL, PostgreSQL, Cassandra, Spark, Databricks, Git, GCP, Azure, PowerBI

PROJECTS

ELI - Explain it to me Like I am | *Presented at UCI Industry Showcase*

- Fine-tuned the **Gemini Pro 1.0** large language model (**LLM**) on **Google Vertex AI**, optimizing for text simplification across multiple comprehension levels, leading to a 30% improvement in readability accuracy.
- Integrated the fine-tuned **LLM** into a **React**-based Chrome extension, implementing a **FastAPI** backend with Vertex AI endpoints to enable real-time text simplification, achieving a 40% reduction in latency for seamless user experience.

CancerCare AI | *Participated in HackTogether 2024, organized by Microsoft* | Github

- Built a Cancer Care Solution utilizing **Microsoft Fabric**'s tools: **Synapse Data Science**, **Data Warehouse**, and **Power BI**.
- Deployed a **chatbot** using **Azure OpenAI** to boost patient interaction within the Cancer Care AI platform.
- Fine-tuned a **ResNet-50** model with **CTGAN** augmentation for brain tumor detection, improving accuracy by 30%.
- Designed and integrated **Power BI** dashboards for real-time patient monitoring, enabling interactive data visualization by connecting to Microsoft Fabric's **Data Warehouse**.

Sparkle | *Winner at Smart India Hackathon, 2022* | GitHub

- Constructed a learning difficulty screening system with 88% accuracy in identifying learning difficulties among children, training an **XGBoost** model using **Scikit-Learn** to provide insights into potential types of learning difficulties.
- Integrated **DeepSpeech** for speech recognition and **DLib**-based head pose estimation with **OpenCV** into a web-based system, built using **Flask**, **HTML**, **CSS**, and **JavaScript**, enhancing diagnostic accuracy by 25%.
- Conceptualized and implemented an intent-based chatbot, using **NLP** and **Tensorflow**, to address a broad spectrum of queries.