Hiren Rajesh Rupchandani

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Education

Indiana University Bloomington, Indiana
Master of Science, Computer Science | GPA 3.97/4.00 Aug 2022 - May 2024
Coursework: Algorithms, Artificial Intelligence, Machine Learning, Database Technologies, Data Mining, Cloud Computing, Computer Vision, Software Engineering

University of Mumbai Mumbai, India
Bachelor of Engineering, Computer Engineering | GPA: 8.25/10.0 Aug 2016 - Oct 2020
Coursework: Object Oriented Programming, Big Data Analysis, Natural Language Processing, Operating Systems

Experience

Indiana University Bloomington Bloomington, IN, USA
Associate Instructor Aug 2023 - May 2024
- Co-instructed students in AI (game theory, search algorithms, etc.) & boosted software engineering course engagement (**97% median cohort score**).
- Led Scrum teams to a 30% increase in productivity & a **25% reduction in bugs** through effective communication strategies.

Accredian Remote
Data Analyst Mar 2021 - Apr 2022
- Built a real-time Python dashboard using marketing data (PostgreSQL) for a **43% session engagement** increase.
- Leveraged PostgreSQL & Python to analyze sales data, driving a **37% increase** in lead conversion.
- Automated customer support with NLP pipeline (Zendesk), reducing manual checks & boosting **response times by 50%**.
- Created comprehensive dashboards (Tableau) for clients, translating complex data into actionable insights for strategic decisions.
- Empowered **1,000+ non-technical users** with Python & libraries (LMS engagement +40%), enabling data analysis in daily tasks.
- Contributed to the successful launch of an industry analytics product (**12% revenue growth**) across 8,000 customers.

Projects

Autonomous Driving Car | 🔗Demo Jan 2024 - May 2024
- Engineered a Level 2 semi-assisted autonomous driving system with real-time hand tracking, boosting safety & reducing driver fatigue.
- Deployed a finely-tuned MobileNetV2 model, ideal for mobile & edge computing, to precisely control a car's steering, acceleration, & deceleration, achieving 98% accuracy.
- Performed additional tests using transfer learning for MobileNetV3 small/large & ResNet50 with custom heads against MobileNetV2, which performed at least 17% better than other models.

PDF Pathfinder | 🔗Demo Sep 2023 - Dec 2023
- Developed a next-gen interactive PDF summarization tool using GPT-3.5 Turbo (chat & summaries). 60% faster & 45% more accurate than BERT.
- Optimized the AI chat assistant with conversational memory (Pinecone vector DB) for more natural & relevant responses.

Video Game Recommendation System | 🔗Demo Apr 2020 - Oct 2020
- Built a Steam video game recommender system (collaborative filtering) for new players, reducing selection time by 35%.
- Fast-tracked video game discovery for new players (30%) by surfacing the top 20 popular titles based on user ratings.

Skills

- **Programming Languages**: Python, R, SQL, C++, JavaScript
- **Database Technologies**: MySQL, PostgreSQL, SQLite, SSMS, Firebase, MongoDB, Pinecone
- **Python/R Libraries**: NumPy, Pandas, SciPy, Matplotlib, Plotly, Sklearn, TensorFlow, Keras, PyTorch, NLTK, CV2, Django, Flask, dplyr, ggplot2, tidyr, caret, Shiny
- **Relevant Tools**: PowerBI, Tableau, Apache Airflow, AWS (S3, EC2, SageMaker), Azure (Azure SQL), GCP (GCS, VertexAI), Docker, Kubernetes, Excel, Git, JIRA, Jupyter, LangChain, LaTeX, Linux
- **Miscellaneous**: Conversational AI, Data Storytelling, Exploratory Data Analysis, Leadership, RESTful API, Scrum