

Amrut Prasad Kulkarni

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EDUCATION

University at Buffalo, The State University of New York

Masters of Science in Computer Science and Engineering

Coursework: Data Intensive Computing, Algorithms Analysis and Design, Computer Security, Introduction to Machine Learning.

Aug 2023 - Present

Score: 3.7/4 CGPA

Vishwakarma Institute of Information Technology (VIIT), Pune, India

Bachelor of Technology in Computer Engineering

Relevant Coursework: Database Management Systems, Business Intelligence, Artificial Intelligence, Machine Learning.

Aug 2019 - Jun 2023

Score: 9.04/10 CGPA

Vishwakarma Institute of Technology, Pune, India

Bachelor of Technology in Computer Engineering

Secured 2nd rank among 60 students.

Relevant Coursework: Mathematics for Machine Learning, Data Science, Computer Vision, Machine Intelligence.

Oct 2019 - Feb 2022

Score: 9.0/10 CGPA

EXPERIENCE

Natural Language Processing Research Intern, VIIT, India

Aug 2022 - Dec 2022

Technical skills: React, Python, Text Preprocessing, Text Classification, POS Tagging, Tokenization, Text Analysis.

- Developed a Flask app for automatic question generation from any text data, resulting in a 7% increase in question creation efficiency.
- Utilized NLP techniques, including Text pre-processing, RegEx, POS Tagging, and question templates, leveraging the NLTK library to achieve a 75% improvement in question accuracy and relevance.
- Successfully presented a research paper at the IEEE-ESCI 2023 Conference, reaching around 200 participants.

Machine Learning Research Intern, VIIT, India

Jan 2022 - May 2022

Technical skills: Python, Neural Networks, SVM, Android Development

- Developed the "SpecRec" app for real-time species recognition using multi-model integration and deep learning, significantly contributing to environmental awareness.
- Achieved remarkable accuracy rates, with a 94.88% precision for plant species identification and 92% for birds using Machine Learning algorithms, including MobileNet, SVM, Naïve Bayes, etc. resulting in a 15% improvement in accuracy.
- The app identifies species and generates concise summaries, facilitating translation into 14 Indian languages. This multilingual approach has led to a 20% increase in accessibility and user engagement, fostering a more inclusive environmental education.
- Presented paper at ICKE-2023, engaging 150+ participants and contributing to discussions on technology and environmental conservation.

PROJECT WORK

Conversational LLM Chatbot

Jan 2024 - May 2024

(LLM, Prompt Engineering, Sequential Chains, Temperature Control, Streamlit, Langchain, HuggingFace API, Fine-Tuning)

- Developed a conversational chatbot using OpenAI and HuggingFace APIs, achieving 95% response accuracy. Implemented dynamic prompt templates and sequential chains, improving query handling by 30%. Built a Streamlit interface for real-time interaction, increasing user engagement by 40%. Integrated custom parsers, environmental variable management, temperature control, and creative content generation with Langchain for secure and versatile operations.

Automatic SQL Query Generation

Jan 2023 - May 2023

(Python, Flask, SQL)

- Designed and developed an optimized Flask-based web app, reducing SQL query creation time by 30% to enable users to effortlessly build queries in under 20 seconds. Implemented performance enhancements for a 20% increase in overall application responsiveness.

Sales Insight

Dec 2022 - Jan 2023

(Tableau, SQL)

- Designed and implemented a Tableau dashboard showcasing AtliQ hardware goods sales trends, effectively enabling users to visualize and extract insights for informed decision-making, with the potential to contribute to a 10% revenue increase by the next quarter.

PUBLICATIONS

- Automatic Question Generation from Textual Data using NLP Techniques - 2023 International Conference on Emerging Smart Computing and Informatics (ESCI), Pune, India, DOI: 10.1109/ESCI56872.2023.10100278 [Link](#)
- SpecRec - Making Environmental Education Accessible Using Machine Learning.- 3rd International Conference on Intelligent Systems, Cognitive Science and Knowledge Engineering (ICKE-2023) [in proceedings] [Certificate](#)

TECHNICAL SKILLS

- **Languages:** Python, SQL (including MySQL, MongoDB, PostgreSQL), Java, Kotlin, C++, C, Linux, R, Javascript, PHP
- **Data Science Skills:** Statistics, Data Analytics, Statistical Analysis, Hypothesis Testing, Reinforcement Learning
- **Libraries:** NumPy, Pandas, Matplotlib, Seaborn, Scikit Learn, Frequentist, Bayesian Paradigms, High-Performance Computing
- **Soft Skills:** Analytical Skills, Problem-solving, Effective Communication, Team Collaborator, Critical Thinking, Content Development