KATYAYANI VERMA

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Work Experience

Hindustan Computers Limited Tech | *Cloud DevOps Intern* Dec 2023 - Jan 2024
- Implemented DevOps practices using Azure DevOps tools to streamline development and deployment processes
- Created own Virtual Server for Industrial Project on Modernization of application & Infrastructure and deployed using Tomcat

Machine Learning Intern, Indian Institute of Information Technology Allahabad June 2023 - July 2023
- Leveraged Python, pandas, and scikit-learn to build machine learning models for various tasks: Predicted passenger survival on the Titanic dataset, Classified Iris flowers into different species, Developed a model to predict California housing prices
- Performed data cleaning, exploratory data analysis, feature engineering, model building, utilized techniques like data visualization, feature selection, model selection, implemented data preprocessing, model training, and hyperparameter tuning

Doctor's Website | *Freelancing in Web development* April 2023 - June 2023
- Oversaw the development and ongoing maintenance of Dr. Mita Verma's (Gynaecologist, Senior Consultant at Moolchand Hospital, New Delhi) professional website, ensuring both content accuracy and user-friendly functionality
- Managed the dynamic aspects of the professional website, ensuring timely publication of her blog posts and online content while facilitating the scheduling of patient consultations through the platform

Professional Development

MLDA Workshop @ Indian Institue of Information Technology Allahabad 1st June - 15th June 2023
- Developed classifications and regression machine learning models using Python on Google Colab with various datasets
- Performed techniques like Data Preprocessing, Feature Engineering, Model Selection between Logistic Regression model, Random Forest model, etc. Evaluated model performance using metrics like accuracy, F1-score, Precision, Recall, etc.

GIAN Course @ Indian Institute of Technology, Kharagpur 18th Dec - 22nd Dec 2023
- In-depth exploration of definitions, methods, clustering, and change detection and participated in hands-on sessions using River / Massive Online Analysis (MOA) and utilized functionalities for data processing, model training, and evaluation

Projects

Snake Game | *Python, Pygame, Jupyter Notebook* Sep 2023
- Utilized Pygame library for graphics and sound effects and developed a classic Snake game following GFG resources
- Implemented core functionalities like snake forward and side movements, collision detection, food generation, and scorekeeping

Chrome Extension | *HTML, CSS, Javascript, APIs (cricApi), Git, VS Code* Nov 2023
- Developed a Google Chrome Extension that retrieves real-time cricket news from all over the globe updates from an API
- Learned how to implement an extension using JSon file and Web Technology coursework using Javascript, HTML and CSS

Sudoku Solver | *C++, APIs, HTML, CSS, Javascript, Git, VS Code* Feb 2024
- Implemented backtracking algorithms in C++ for efficient sudoku puzzle solving for faster result generation and its visualization
- Demonstrated API integration skills and leveraged API for fast on-click puzzle generation and visualization in tabular form
- Created a user-friendly interface for on click sudoku puzzle generation of difficulty level - easy and on click sudoku solution

Drowsiness Detection | *Python, YOLOv5, OpenCV, PyTorch, Matplotlib* March 2024
- Learned about the concept of object detection involving identifying objects within images, video frames or real time frames
- Implemented advanced data augmentation techniques to increase the diversity of the training dataset, such as random cropping, rotation, flipping using graphical image annotation tool LabelImg and improved generalization ability of the detection model
- Trained YOLOv5 model on self created datasets to adapt the model to self created domain-specific object detection tasks

Fine-tuning LLAMA 7b with college data | *Python3, Hugging Face, Google Colab, Transformers, Datasets, Accelerate, Peft* May 2024
- Fine-tuned the massive LLAMA 7b language model on Google Colab using college data self uploaded on Hugging Face
- Implemented techniques like LoRA for memory optimization, enabling fine-tuning on a single Colab T4 GPU
- Uploaded the fine-tuned model to the Hugging Face Hub calling through token in Google colab

Research Work

Proactive threshold-proxy re-encryption scheme for secure data sharing on cloud.J Supercomput 79, 14117–14145 (2023).

Low-rank GAT:toward robust quantification of neighborhood influence. Neural Computing and Applications 35, no. 5 (2023):3925-3936

Education

Kalinga Institute of Industrial Technology April 2025

Bachelor of Technology Computer Science *Current GPA: 7.99*

Relevant Coursework: Object-Oriented Programming, Data Structures & Algorithms, Machine Learning, Distributed Systems, Database Management System, Discrete Math, Probability & Statistics, Computer Networks, TCP/IP, Operating Systems, Web Technology, Natural Language Processing, Design & Analysis of Algorithms, Cryptography, Cloud Computing, Software Project Management, Automata & Formal Languages, Compiler Design, Data Analytics

Skills

Languages: C, C++, Python, Java, JavaScript, HTML/CSS, R, LaTeX, Go, SQL, Oracle, MySQL, PostgreSQL, YAML, BASH
Tools: Git/GitHub, Flutter, VS Code, Maven, Ansible, Excel, Tableau, PowerBI, LabelImg, ChatGPT, AWS, Azure, Office 365
Frameworks: React, Node.js, Angular, Hadoop, Unix/Linux, MacOS, Flask, WordPress, Hadoop, Bootstrap, Express, YOLO
Libraries: pandas, NumPy, Matplotlib, Selenium, scikit-learn, PyTorch, OpenCV, Pygame, Ultralytics, River

Certifications

The Complete Python Bootcamp From Zero to Hero in Python Udemy July 2023
React & Django Full Stack: web app, backend API, mobile apps Udemy Dec 2023
Data Structures in C++ Udemy Feb 2024