**NANDITHA L CONTACT**

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**PROFILE**

Second-year B.Tech student passionate about **technology, innovation, and community service.** Skilled in programming languages like **Python and C++**with a strong interest in **UI/UX design, game development, and data analytics** .Effective **team player** with a commitment to continuous learning and professional growth.

**EDUCATION**

**Jerusalem College of Engineering**

**Bachelor of Technology in Artificial Intelligence and Data Science** (Class of 2023-2027)

**Relevant Coursework:** Data Structures, Machine Learning, Power BI, MySQL, Python, Data Science

**CERTIFICATIONS**

* **Power BI**:Mastered data visualization, business intelligence, and dashboard creation.
* **MySQL**: Proficient in advanced database management and querying techniques.
* **Python for Data Science**: Acquired skills in Python programming for data analysis and machine learning.
* **360DigiTMG Certification in Data Science:** Comprehensive training in data preprocessing, exploratory data analysis (EDA), and model building.

**SKILLS**

* **Programming Languages:** Python, C++, SQL
* **Data Visualization:**Power BI, Matplotlib, Seaborn
* **Tools & Platforms:** MySQL, spyder IDE, Jupyter Notebook
* **Technical Expertise:**Machine Learning, Data Analysis, Dashboard Design

**PROJECTS WORKED ON**

**Workplace Safety and Compliance Monitoring System:** Developed a system to enhance workplace safety by **automating compliance checks, monitoring environmental conditions, and ensuring regulatory adherence using AI and IoT**.

**Real time demand supply balancing for power trading:** Designed an intelligent system that uses AI and **real-time data** to balance electricity demand and supply dynamically, minimize procurement costs, and reduce financial risks by **predicting price fluctuations** and **optimizing trading decisions.**

**LANGUAGES**

* **English:**Fluent
* **Tamil:**Fluent
* **Hindi:**Proficient in reading and writing

**PROJECT 1: WORKPLACE SAFETY AND COMPLIANCE MONITORING**

**BUISNESS PROBLEM:**

To minimize safety hazards and regulatory fines, automated monitoring is needed. To maximize efficiency, it replaces manual reporting prone to delays and errors.

**BUISNESS SOLUTION:**

* Uses computer vision and deep learning to detect **PPE violations.**
* Monitors worker posture to prevent ergonomic hazards.
* Provides real-time alerts and compliance reports.
* Ensures regulatory adherence and enhances workplace safety.

**Feature Engineering:** PPE classification, pose estimation, and risk assessment.

**Model 1 – PPE Detection** : YOLO (v8)

**Model 2 – Pose Estimation** : MediaPipe

**TECHNOLOGY STACK:**

* Programming Languages: Python
* Libraries: Ultralytics,opencv, mediapipe,PyQt5,TensorFlow,streamlit
* Software/IDE: Spyder,Google Colab
* Database: PostgreSQL
* Version Control: GitHub
* Other Tools: roboflow

**BUISNESS BENEFITS:**

* Improved Workplace Safety
* Regulatory Compliance
* Operational Efficiency
* Cost Reduction
* Real-time Monitoring
* Scalability

**PROJECT 2**

**Business Problem:** In power trading, price volatility and demand-supply imbalances create significant financial risks for market participants. The challenge lies in integrating multiple data sources, handling market uncertainties, and optimizing trading strategies in real-time.

Objective: Minimize financial and procurement costs in power

**Buisness solution:**

To minimize financial and procurement costs in power trading, we propose a **data-driven, AI-powered trading decision support system** that integrates predictive analytics, real-time monitoring, and optimization algorithms. This solution focuses on three key pillars: **price prediction**, **procurement optimization**, and **efficient supply management**.

**Technology Stack:**

* Programming Language: Python
* Libraries/Frameworks: Pandas, NumPy, Scikit-learn, XGBoost .
* Deployment Tools: Streamlit

**Buisness Benefits**

* Predicting price fluctuations using **data analytics**.
* Optimizing procurement (buying power at the best price).
* Managing supply efficiently to avoid **overpaying** or **undersupplying**.