

Problem Statement 1 :-

The Uniform Code for Pharmaceutical Marketing Practices (UCPMP) aims to prevent undue influence on healthcare professionals by pharmaceutical companies. However, the code allows for some exceptions, such as sponsoring travel and accommodation for conferences if the healthcare professional is a speaker.

Challenge:

- Develop a system or process to ensure compliance with the UCPMP while still allowing for legitimate educational opportunities for healthcare professionals.

This system should:

- Clearly distinguish between acceptable and unacceptable gifts and sponsorships.
- Streamline the approval process for sponsoring travel and accommodation for conferences.
- Track and monitor all interactions between pharmaceutical companies and healthcare professionals to identify potential conflicts of interest.
- Ensure transparency in the reporting of free drug samples.

This system should balance the need to prevent unethical marketing practices with the importance of continuing medical education for healthcare professionals.

Problem Statement 2 :-

Securing the Future of Decentralized Finance Hackathon. As a team, you'll address critical challenges in smart contract security, safeguarding the future of DeFi.

Challenge:

- Develop a tool to automatically detect and identify vulnerabilities in smart contracts.
- Design a patching mechanism for deployed smart contracts to fix vulnerabilities without compromising the integrity of the blockchain.
- Conduct a security audit of a provided smart contract and present potential exploits and mitigation strategies.

This system should:

- Prioritize security in the realm of Decentralized Finance (DeFi)
- It should have an automated vulnerability detection tool that can proactively scan and identify weaknesses in smart contracts.
- It should provide a secure patching mechanism to fix vulnerabilities in deployed smart contracts while upholding blockchain integrity.
- It should enable security audits of smart contracts to uncover potential exploits and suggest mitigation strategies.
- Be transparent and user-friendly
- Adhere to best practices and industry standards

Problem Statement 3 :-

Challenge:

- Design an intelligent music recommendation system powered by AI, codenamed Symphony. Symphony should learn a user's musical soul and curate a personalized soundtrack for every mood, moment, and activity.

This system should:

- Understanding User Preferences: Deep Music Analysis, Genre and Artist Preferences
- Analyze user listening patterns to understand their mood preferences based on the types of music they choose at different times.
- Temporal Patterns: Consider how listening habits change throughout the day, week, or even year. Recommend music suitable for different times (e.g., upbeat music for workouts, calming music for bedtime).
- Analyzing User-Created Playlists: Extract keywords and themes from playlist titles and descriptions to understand the user's intent and emotional associations with certain types of music.
- Correlating User Behavior: Track user actions like skipping songs or rewinding to specific parts to understand their emotional engagement with music.
- Recommendation and Exploration:
- Personalized Recommendations: Based on the user profile built through the methods above, recommend new music that aligns with their preferences while venturing beyond their usual choices to encourage discovery.
- Explainable Recommendations: Provide some level of explanation for recommendations, letting users understand why a particular song is suggested. This could involve highlighting relevant user preferences or shared characteristics with songs they already enjoy.

Problem Statement 4 :-

Challenge:

- Secure File Sharing Platform. Develop a secure file sharing platform that ensures end-to-end encryption for sensitive data during transmission and storage. The platform should address concerns related to data privacy, confidentiality, and integrity, providing robust authentication mechanisms, access controls, and encryption key management features.

This system should:

- Users can confidently share sensitive files knowing they are protected by end-to-end encryption.
- Granular access controls prevent unauthorized access and ensure data confidentiality.
- Secure key management minimizes the risk of decryption by unauthorized parties.
- The platform adheres to data privacy regulations and respects user privacy.
- User experience is intuitive and efficient, promoting adoption of the secure file sharing platform.

Problem Statement 5 :-

Challenge:

- Supply Chain Security Assurance Platform, Develop a platform for assessing and monitoring the security posture of supply chain partners and vendors, ensuring that third-party products and services meet established security standards and compliance requirements. The platform should facilitate risk assessments, vendor audits, security evaluations, and ongoing security monitoring to mitigate supply chain risks and vulnerabilities.

This system should:

- Improved Visibility: Gain comprehensive insights into the security posture of all supply chain partners.
- Proactive Risk Mitigation: Identify and address vulnerabilities before they can be exploited by attackers.
- Enhanced Compliance: Ensure all vendors meet established security standards and regulatory requirements.
- Streamlined Vendor Management: Automate workflows for vendor onboarding, risk assessment, and ongoing monitoring.
- Improved Communication and Collaboration: Foster a collaborative environment where organizations and vendors work together to secure the supply chain.

Problem Statement 6 :-

Challenge:

- The web-based system is expected to help common users in making decisions regarding water well in a particular location. The system will be driven by NAQUIM data of CGWB like lithology, geophysical logs, water levels, water quality, aquifer maps, etc. On a user-selected point the AI-based predictor should be able to provide the following information:
 - Whether the area is suitable for water well construction or not?
 - At what depth water-bearing zones are expected to be encountered;
 - What is the expected discharge of the well;
 - What is the most suitable drilling technique in the area;
 - What is the expected quality of groundwater in the area
- and other relevant information? There should be a user-friendly graphical user interface. Provisions should also be there to obtain the user feedback in a structured manner.

This system should:

- Area is suitable for water well construction or not (Classification)
- At what depth water-bearing zones are expected to be encountered (Regression)
- Expected discharge of the well (Regression)
- Most suitable drilling technique in the area (Regression)
- Expected quality of groundwater in the area (Classification)
- Have user-friendly graphical user interface
- Provision to obtain the user feedback in a structured manner

Where to get data from:

- NAQUIM data of CGWB

Bonus Problem Statement :-

Challenge:

- Welcome, aspiring alchemists! In this open-ended challenge, we throw tradition to the wind and unleash your creative spark. Forget the Philosopher's Stone. we're venturing beyond the confines of known materials and processes. Let Your creativity run wild, Design a Full Stack App.

This Should :-

- The Full Stack Server Should be Properly maintained
- The Backend server must be properly connected
- The Web app Should not be static
- The Web app Plagiarism content should be less than 30%