Task 3.4 Legal assessment

Group Legal Assessment: Evaluating the Risk Level of the AI-Enabled Accident Prediction System

During our team deliberations, we thoroughly assessed the impact and implications of our AI system, which is designed to predict accidents and integrate these predictions into Google Maps. The discussion was focused on the system's potential effects on public safety and concerns related to data privacy.

Identified Risk Level: High

After careful consideration, our group agreed that the system should be classified as "High Risk" under the EU AI Act. This classification is supported by several critical factors:

- Safety Concerns: The core functionality of our system is to predict accidents, directly influencing the safety of users. Any errors or inaccuracies in prediction could lead to dangerous situations, justifying its high-risk classification.
- Data Sensitivity: The system uses a significant amount of personal and environmental data. Compliance with stringent data protection laws like GDPR is essential to protect user privacy and maintain data security.
- Risk of Negative Outcomes: Misleading predictions could potentially lead users into hazardous conditions, increasing the risk of accidents. There's also the concern that excessive reliance on the system could diminish users' personal alertness.

Reasons for High-Risk Classification

- Impact on Decision-Making: The system's predictions are used by drivers and traffic authorities to make crucial safety decisions. The accuracy of these predictions is vital due to the severe consequences of incorrect information.
- Data Handling Requirements: Given the extensive data the system processes, robust protections are necessary to prevent data breaches and ensure user data is handled responsibly.
- System Transparency and Reliability: High-risk AI systems are legally required to operate transparently and reliably. Users need clear information on how the system works, how it uses data, and its prediction limitations.

Group Strategies for Risk Management

Moving forward, our group agreed on several key actions to manage these risks:

- Ongoing System Reviews: Regularly update the system and check its accuracy to ensure reliability and reduce prediction errors.
- Adherence to Legal Standards: Set up procedures for frequent compliance checks to continuously align with the EU AI Act and GDPR.
- Clear User Guidelines: Produce detailed user guides to help users understand the system's functionality and emphasize the importance of maintaining situational awareness despite technological assistance.

Task 3.5 Legal requirements and obligations

Group Legal Assessment: Essential and Non-Essential Legal Requirements for AI System Development

In aligning with the EU AI Act, our group identified several legal requirements and obligations crucial for the development of our AI-based accident prediction system. These are important for ensuring the system's safety, reliability, and compliance:

Essential Legal Requirements and Obligations

- Data Accuracy and Integrity (Article 10):

Requirement: Ensuring that the data used for training and operating the AI is accurate, relevant, and representative.

Obligation: Regularly validate and update the data sources to avoid biases and ensure the predictions are based on the most current and comprehensive data available.

- Documentation and Record-keeping (Article 12):

Requirement: Keeping detailed records of the system's development processes, including data handling, testing methodologies, and decision-making process.

Obligation: Ensure that all documentation is readily available for auditing and compliance checks, supporting transparency and accountability.

- Transparency and Information Provision (Article 13):

Requirement: Maintaining transparency about the AI system's functionalities, decision-making processes, and prediction methods.

Obligation: Provide clear, accessible explanations to users about how the system uses data and the limitations of its predictions.

Non-Essential Legal Requirements and Obligations

Certain legal requirements, typically applicable to other AI systems, have been deemed non-essential for our project due to the specific nature of our system:

- Biometric Identification:

Non-Essential: Our system does not involve processing biometric data, which is more relevant to applications focused on security or personal verification.

- Emotional Recognition:

Non-Essential: Since our system does not deal with analyzing or predicting emotions, the requirements for emotional recognition systems are not applicable.

- Social Scoring:

Non-Essential: Our system is not designed to assess or influence the social standing or legal rights of individuals, making social scoring regulations irrelevant.

Strategic Implementation and Compliance

Each team member has contributed to the identification of these requirements by exploring various components of the AI Act relevant to our accident prediction system. We are committed to implementing these essential requirements through thorough development practices, including consistent testing for accuracy, comprehensive documentation, ensuring transparency, and maintaining human oversight.

Our strategy maximizes resource allocation and improves the system's reliability and trustworthiness without being weighed down by unnecessary

legal requirements by choosing to concentrate on the most relevant legal requirements.

Resources

Article 10: Data and data governance. EU Artificial Intelligence Act. (n.d.-a). https://artificialintelligenceact.eu/article/10

Article 12: Record-keeping. EU Artificial Intelligence Act. (n.d.-b). https://artificialintelligenceact.eu/article/12/

Article 13: Transparency and provision of information to deployers. EU Artificial Intelligence Act. (n.d.b).https://artificialintelligenceact.eu/article/13/

The AI act explorer. EU Artificial Intelligence Act. (n.d.-g). https://artificialintelligenceact.eu/ai-act-explorer/

Task 3.6 Relevance of legal requirements and obligations

Group Legal Assessment: Relevance of Legal Requirements and Obligations in AI System Development

Our group undertook a comprehensive legal assessment to determine the relevance of specific legal requirements and obligations in developing our AI-based accident prediction system. This evaluation was guided by the EU AI

Act, ensuring our system's development aligns with necessary legal standards while also identifying any non-essential legal requirements. Here's how we've justified the inclusion of these important legal requirements:

Essential Legal Requirements and Justifications

- Data Accuracy and Integrity (Article 10)

Requirement: Ensuring the AI uses accurate, relevant, and representative data.

Justification: Accurate data is crucial for the reliability of accident predictions, directly impacting public safety. Poor data quality could lead to incorrect predictions, posing significant risks. The importance of data integrity in AI-driven traffic management systems is well-documented in the literature, such as in Almukhalfi, Noor, and Noor's work on traffic management using machine learning and deep learning techniques (Almukhalfi, Noor, & Noor, 2024).

- Documentation and Record-keeping (Article 12)

Requirement: Maintain detailed records of the AI system's development, including data handling and testing methodologies.

Justification: Thorough documentation ensures traceability and facilitates compliance checks, crucial for maintaining transparency and accountability in systems that affect public safety. The need for specific AI documentation practices is highlighted by Königstorfer and Thalmann, emphasizing the challenges in documenting AI due to its complex and often unclear nature (Königstorfer & Thalmann, 2022).

- Transparency and Information Provision (Article 13)

Requirement: Maintain transparency about the AI system's functionalities and limitations.

Justification: Transparent operations allow users to understand how predictions are made and to measure the reliability of the AI system, enhancing user trust and informed decision-making. The demand for transparency in AI applications and the reasoning behind it are further supported by the insights of Blackman and Ammanath (2022), who emphasize that transparency is crucial for building trust and facilitating accountability in AI deployments.

Non-Essential Legal Requirements and Justifications

- Biometric Identification

Non-Essential: Our system does not process biometric data, typically used in security or personal identification applications.

Reasoning: Including this requirement would unnecessarily complicate the system without adding value to the accident prediction capabilities.

- Emotional Recognition

Non-Essential: Since our system does not analyze or predict emotions, the regulations governing emotional recognition systems are irrelevant.

Reasoning: Directing resources towards implementing emotional recognition capabilities would divert focus from critical aspects such as enhancing data accuracy and system reliability.

- Social Scoring

Non-Essential: Our system does not engage in evaluating or influencing the social standing or legal rights of individuals.

Reasoning: Social scoring regulations are intended to prevent discrimination and are not applicable to the functional scope of our accident predicting AI.

Strategic Implementation and Compliance

Team members contributed by researching various aspects of the AI Act relevant to our system. We are committed to implementing essential legal requirements through rigorous development practices. These include consistent accuracy testing, comprehensive documentation, ensuring transparency, and maintaining human oversight.

By focusing on the most relevant legal requirements, our strategy optimizes resource allocation, enhances the system's reliability, and ensures trustworthiness without being limited by unnecessary legal demands.

Resources

The AI act explorer. EU Artificial Intelligence Act. (n.d.-g). https://artificialintelligenceact.eu/ai-act-explorer/

Almukhalfi, H., Noor, A., & Noor, T. H. (2024). Traffic management approaches using machine learning and deep learning techniques: A survey. Engineering Applications of Artificial Intelligence, 133(Part B), 108147. https://doi.org/10.1016/j.engappai.2024.108147

Königstorfer, F., & Thalmann, S. (2022). AI Documentation: A path to accountability. Journal of Responsible Technology, 100043. https://www.sciencedirect.com/science/article/pii/S2666659622000208?via %3Dihub

Building transparency into AI projects. Harvard Business Review. (2022, June 20). https://hbr.org/2022/06/building-transparency-into-ai-projects#:~:text=There%20are%20four%20specific%20effects%20of%20buil ding%20in,people.%20Transparency%20is%20not%20an%20all-or-nothing%20proposition%2C%20however.

Task 3.7 Addressing legal obligations