Information and Networking Event
Horizon Europe 2023-2024 Calls
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HORIZON-CL4-2024-HUMAN-03-02: Explainable and Robust AI

24 May 2024

- TITLE of talk - *AirSense*: A location invariant trustworthy AI model for predicting Air pollutants and recommender system.
- Name of presenter - Dr. Shubhankar Majumdar
- Name of Organisation - National Institute of Technology Meghalaya
- Nature of Organisation - Academia
- Country - India
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How to create your pitch presentation
Guidelines for participants Instructions for flash presentation

In case of presenting a project idea

Slides may show:

- Project proposal title - AirSense: A location invariant AI model for predicting Air pollutants
- Topic to be addressed -
    - Air Pollutants concentration prediction on real time,
    - Development of trustworthy AI model for imputing the faculty/ missing sensor data,
    - Development of the light weight AI model to perform Edge computing,
    - Development of AI model which can give the prospective solutions by predicting the air pollutants in a location, which will be helpful for the policy makers.
    - Development of AI based recommender which can able to provide recommendations to the locality people based on the air pollutants concentration.
    - Development of Location invariant AI model .

- Project description (brief)-

Our project aims to address critical challenges in air quality monitoring and management through the development and implementation of advanced Artificial Intelligence (AI) models. The overarching objectives include:

1. Real-Time Air Pollutant Concentration Prediction:
    - Deploying AI algorithms to accurately predict air pollutant concentrations in real time, enabling timely interventions and decision-making.
2. Trustworthy AI Model for Imputing Missing Sensor Data:
    - Developing robust AI models to impute missing sensor data, ensuring the reliability and completeness of air quality datasets for analysis and decision support.
3. Lightweight AI Model for Edge Computing:
    - Designing lightweight AI models optimized for edge computing environments, enabling efficient processing and analysis of air quality data at the sensor level.
4. Predictive AI Model for Policy-Making:
    - Creating AI models capable of predicting future air pollutant levels in specific locations, providing policymakers with actionable insights to formulate effective environmental policies and regulations.
5. AI-Based Recommender System for Public Awareness:
    - Developing an AI-based recommender system that offers personalized recommendations to individuals based on local air pollutant concentrations, empowering communities to make informed decisions to protect their health and well-being.
6. Location-Invariant AI Model:
    - Designing AI models that are location-invariant, ensuring their applicability and effectiveness across diverse geographic regions and environmental conditions.

Our project aims to revolutionize air quality monitoring and management practices, facilitating proactive measures to mitigate the adverse impacts of air pollution on public health and the environment. Through interdisciplinary collaboration and innovative AI technologies, we strive to create a healthier and more sustainable future for all.

- Current consortium (if any) -
  - Dr. Chinmaya Dehury (University of Tartu, Estonia)
  - Dr. Hemant Ghaywat (LNU, Sweden)
- Profile of the partners sought (type, skills, role, etc.) - We require industry partner and one EU partner who will be specialized in AI based recommender system development and explainable and trustworthy AI system

In case of presenting an entity profile linked to a specific topic

Slides may show:

- Topic to be addressed - Air pollution
- Specific contribution to the topic - Sensor network for predicting Airpollutants.
- The profile should point out your core competencies/core tasks. It should describe the type of cooperation you are looking for;
  1. Indian Collaborator - Air pollution sensor development
  2. EU collaborator - 1. AI model development (Dr. Chinmay Dehuri); 2 .Security (Dr. Hemant Ghywat);
- Experience - More than 8 years
- Keywords - Prediction, Recommender System, Trustworthy AI model, Air Pollution.