Use and Integration of AI in Agrisystem

Dott. Fabrizio Capocasale
Specialist in Artificial Intelligence Applications, Entrepreneur, and Startupper

Course Aims

The aim of this course is to equip PhD students with the understanding of the role, applications, and potential of Artificial Intelligence (AI) in modern agricultural systems. It is designed to provide an exploration of how AI technologies can be used to enhance various aspects of agriculture, from crop management and pest detection to livestock monitoring and supply chain optimization.

Through a combination of theoretical knowledge and practical insights, the course will enable students to critically assess the opportunities and challenges associated with integrating AI into Agrisystems. Students will gain a holistic view of the current state and future prospects of AI in agriculture, including ethical considerations and sustainable practices.

By the end of the course, students will have knowledge of AI applications in agriculture, whether in academic research, industry practice, or policy development. They will have the skills to apply AI solutions that can lead to more efficient, productive, and sustainable agricultural practices.

Methodology

Here's a concise summary of the teaching methodology for the course:

Integrated Lectures and Multimedia: Blend traditional lectures with multimedia elements to introduce AI concepts.

Case Study Analysis: Use real-world examples to explore practical AI applications in agriculture.

Hands-on Workshops: Implement interactive sessions for students to directly engage with AI tools.

Expert Insights: Incorporate one guest lecture from industry professional for real-world

perspectives.

Discussions and Debates: Encourage debates and discussions on current AI trends and ethical considerations in agriculture.

Research and Review: Assign tasks to review recent developments in AI and agriculture.

Feedback and Reflection: Regularly gather feedback and conduct reflective learning activities to tailor course content and enhance understanding.

Course description

This course offers an exploration into the transformative role of Artificial Intelligence (AI) in modern agricultural systems.

Designed for PhD students, it provides the understanding of how AI technologies are being integrated into various aspects of agriculture to enhance efficiency, productivity, and sustainability.

Throughout the course, students will engage with key concepts of AI, including machine learning, data analytics, and predictive modeling, and understand their practical applications in crop management, pest and disease detection, livestock monitoring, and supply chain optimization.

The course emphasizes a **hands-on approach**, allowing students to interact with AI tools and technologies through workshops and simulations.

In addition to technical skills, the course will foster critical thinking about the challenges and ethical considerations of implementing AI in agriculture. Students will analyze case studies, engage in discussions and debates on current trends, and gain insights from industry experts.

By the end of the course, participants will have a foundation in the principles of AI in agriculture, equipped with the skills and knowledge to contribute effectively to the field, whether in research, industry practice, or policy development.

Recommended texts

tbd