

Single tree growth models are destined to be the core components of Decision Support Systems for forest management on a local, national and regional level, empowering response to minimize potentially harmful consequences for modern societies in line with the UN Sustainable Development Goals.

Artificial Intelligence for Climate Sensitive Tree Growth Modelling and Maximum Carbon Segregation

in lişti kenara Adlırış terhil

IMAGINE - TWIN TRANSFORMATION

How understanding and explaining tree growth is essential for optimizing carbon segregation, biodiversity and climate adaptation in forest ecosystems.

IMPORTANCE AND CHALLENGE



AI4Trees Consortium refiz.duro@ait.ac.at













💳 Bundesministerium

Klimaschutz, Umwelt, Energie, Mobilität, Innovation und Technologie



The developments described are carried out within the AI4Trees research project funded by the Austrian Research Promotion Agency (FFG) in the frame of the Research, Technology & Innovation (RTI) initiative "AI for Green".

IMPORTANCE AND CHALLENGE



Climate Change

Climate change and the crisis of biodiversity are the two largest challenges of the 21. century

Climatic Extremes

Phenological Patterns Change

Droughts Wild Fires Heat Waves

Vegetation season length

Disturbances Unpredictable Impactful

Carbon Segregation

Forest Economy

AI4Trees Consortium refiz.duro@ait.ac.at













💳 Bundesministerium

Klimaschutz, Umwelt, Energie, Mobilität, Innovation und Technologie



The developments described are carried out within the AI4Trees research project funded by the Austrian Research Promotion Agency (FFG) in the frame of the Research, Technology & Innovation (RTI) initiative "AI for Green".

IMPORTANCE AND CHALLENGE



Climate Change

Climate change and the crisis of biodiversity are the two largest challenges of the 21. century

Climatic Extremes

Phenological Patterns Change

Droughts Wild Fires Heat Waves

Vegetation season length

Disturbances Unpredictable Impactful

Carbon Segregation

Forest Economy

AI4Trees Consortium refiz.duro@ait.ac.at













💳 Bundesministerium

Klimaschutz, Umwelt, Energie, Mobilität, Innovation und Technologie



The developments described are carried out within the AI4Trees research project funded by the Austrian Research Promotion Agency (FFG) in the frame of the Research, Technology & Innovation (RTI) initiative "AI for Green".

IMPORTANCE AND CHALLENGE



Climate Change

Climate change and the crisis of biodiversity are the two largest challenges of the 21. century

Climatic Extremes

Phenological Patterns Change

Droughts Wild Fires Heat Waves

Vegetation season length

Disturbances Unpredictable Impactful

Carbon Segregation

Forest Economy

AI4Trees Consortium refiz.duro@ait.ac.at













AI4TREES METHOD AND GOAL





Energie, Mobilität, Innovation und Technologie



The developments described are carried out within the AI4Trees research project funded by the Austrian Research Promotion Agency (FFG) in the frame of the Research, Technology & Innovation (RTI) initiative "AI for Green".

IMPORTANCE AND CHALLENGE



Climate Change

Climate change and the crisis of biodiversity are the two largest challenges of the 21. century

Climatic Extremes

Phenological Patterns Change

Droughts Wild Fires Heat Waves

Vegetation season length

Disturbances Unpredictable Impactful

Carbon Segregation

Forest Economy

AI4Trees Consortium refiz.duro@ait.ac.at













AI4TREES METHOD AND GOAL



Machine Learning

Artificial Intelligence

Explainability

Bayesian approaches

Output: Tree Growth Models

Core components of Decision Support Systems for forest management on a local, national and regional level, empowering response to minimize potentially harmful consequences for modern societies in line with the UN Sustainable Development Goals.



= Bundesministerium

Klimaschutz, Umwelt, Energie, Mobilität, Innovation und Technologie



The developments described are carried out within the AI4Trees research project funded by the Austrian Research Promotion Agency (FFG) in the frame of the Research, Technology & Innovation (RTI) initiative "AI for Green".