# Proposal for an AI Model to Predict Climate Change

Detect, Treat, and Prevent Factors that Influence Climate Change


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*Climate change affects the development of human life and its environment. This problem is having devastating consequences for many sectors of society, leading many to seek solutions to mitigate the impacts brought about by climate change.*

*Through an AI model that predicts climate change, humanity will be able to face the following challenges:*

### Loss of natural resources

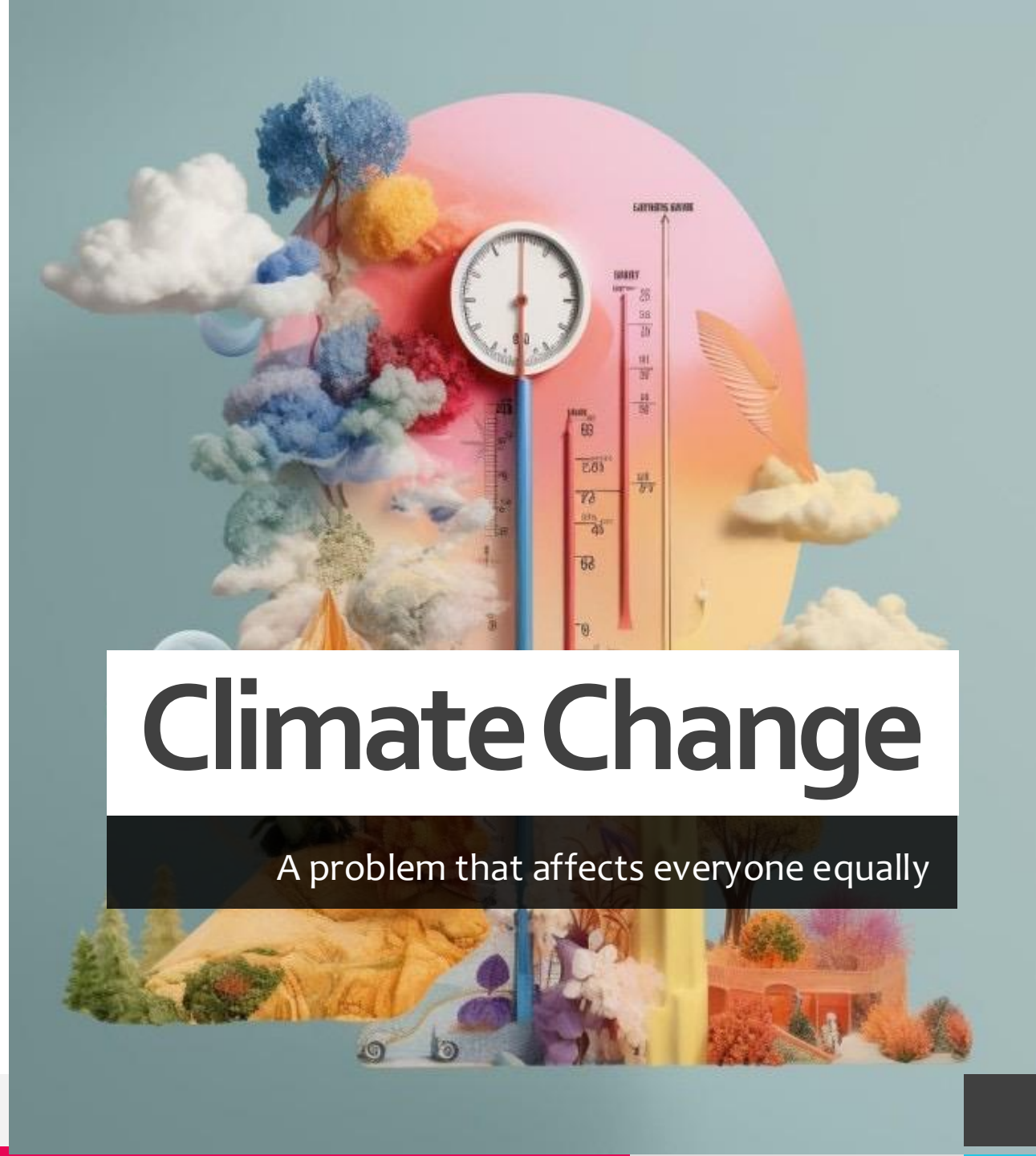
- The consequences of climate change affect ecosystems on Earth, altering the natural order of life such as access to drinking water, fertile land for agriculture, and essential species for human consumption.

### More constant presence of natural disasters

- Climate change is causing storms, floods and droughts to become more frequent and aggressive on Earth.

### Global warming

- The deterioration of the ozone layer on Earth is causing heat waves to occur more frequently and intensely every day. This is becoming a risk to human health, such as skin problems.



# Climate Change

A problem that affects everyone equally

# Objectives and Solutions of the Climate Change Prediction Model

## Early detection of natural disasters

- An AI model that predicts long-term climate behavior is effective in detecting areas at risk of flooding, storms, and other natural disasters due to climate change.

## Mitigation

- The model's predictions based on the data provided will serve to understand the factors and their relationship with long-term climate changes, helping humanity prevent future challenges related to this problem.

## Adaptation

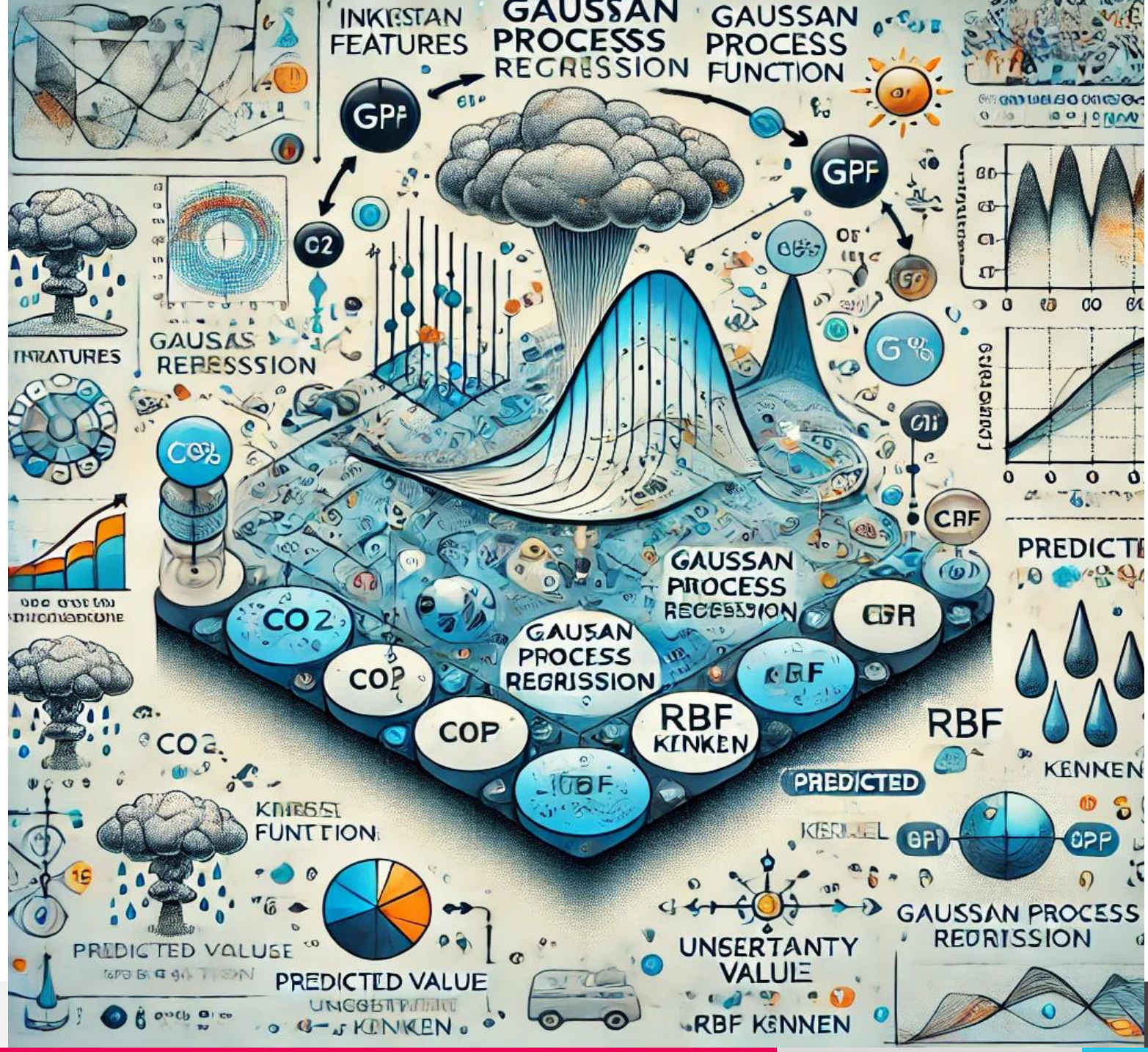
- The predictions made by the AI model will help society work on ways to adapt to these changes and not feel so challenging when facing them.

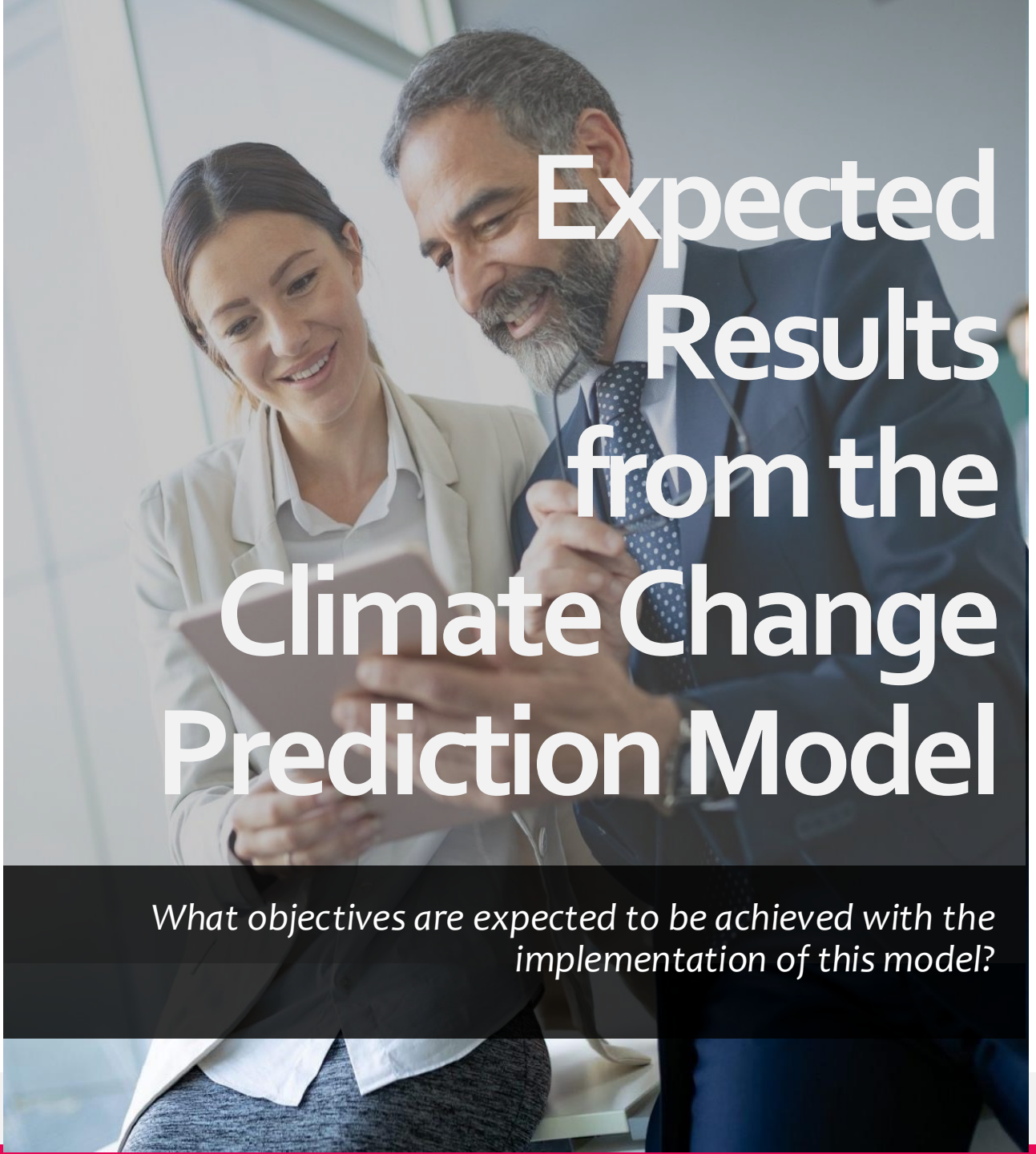
# Architecture of the Climate Change Prediction Model

The model will use a Gaussian Process Regression (GPR) architecture. This architecture is based on a probabilistic approach that uses Gaussian processes to make predictions.

The characteristics of the GPR architecture are:

- The model will define a distribution over functions based on the data.
- It uses the Kernel (covariance function) which is the relationship between the data points. This allows capturing complex non-linear patterns.
- GPR models create predictions based on the expected mean (the leading prediction) and a variance (uncertainty).
- These features are essential for the model to predict possible climate changes.





# Expected Results from the Climate Change Prediction Model

*What objectives are expected to be achieved with the implementation of this model?*

*The implementation of climate change prediction model expected that, when predicting future changes in the climate, human society will be able to create tools to mitigate the impact of these changes in the future. The use of the model is limited to predicting future changes in the climate, however, human ingenuity will allow us to understand the causes and factors associated with climate change to create tools and new resources to deal with this problem, such as preserving resources, creating infrastructures that can withstand natural disasters created by these changes, and developing new strategies to address the challenges related to climate change in the world.*

# Conclusions and Future Improvements

Climate change is a problem that affects the life and development of humanity.

That is why it is necessary to create tools that help us face this problem.

A model that predicts climate changes is a tool that would help meet this challenge.

With the help of data applied in AI using ML techniques, data science, and GPR, a model that predicts changes in the climate, humanity could prevent and plan new ways to avoid these abrupt changes.

The model is intended to predict future changes in the climate. However, with the predictions, plans and tools can be developed and implemented to help address this global problem.

Over time, the model can be trained to not only predict but also provide suggestions on how to address the challenges associated with climate change.

# ThankYou