





## Grasslands for Insects

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## Introduction

This project is dedicated to the research of future actions for the conservation and promotion of biodiversity. The grasslands for insects collected in this book clarify their relevance in this context. They were generated using a machine language model (*GPT Neo*) that has already been trained with *The Pile* dataset. *The Pile* consists of 825GB of textual material composed of 22 smaller datasets that include books, websites, GitHub repositories, chat logs, and disciplines such as medicine, physics, mathematics, computer science, and philosophy. Inputs such as “Artificial grasslands for insects” and “Clean-cut grasslands for insects” were passed to the model to generate short texts, which were manually recomposed into the text blocks presented here. The order of the texts is based on their similarity. Starting with the first text, the most similar text follows. The similarity was calculated with a NLP library (*spaCy*).

The images are results of a machine image model (*StyleGAN3*), which was trained to generate grasslands for insects. The model was already pre-trained with the dataset *AFHQv2* (*Animal Faces*), thus able to generate photorealistic images of animals. By means of fine tuning to a custom dataset, this model was retrained to generate grassy areas. For this purpose, 129 photographs of grassy areas were taken in Huthpark and on the footpath to the Bornheim district of Frankfurt on February 26, 2022. The photographs had a resolution of 4032 x 3024 pixels. From these, 3 images with 2048 x 2048 pixels each were cut out (vertically centered, one left-aligned, one right-aligned, one central). Then each image, additionally rotated by 90, 180 and 270 degrees, was saved in a resolution of 512 x 512 pixels. Thus, 12 images were created from one photo, corresponding to 1548 images from 129 photos. These were flipped along the vertical axis in the

training process, resulting in 3096 different images. In the training process, 440,000 images were synthetically generated and compared to the originals from the dataset, improving the neural network. A total of 1100 images were generated at different training levels (60k, 80k, 100k, 120k, 220k, 440k) for human eyes, from which the selection seen here was made.

The selected images were scaled from 512 x 512 to 2048 x 2048 pixels using another neural network (*Real-ESRGAN*). The order of the images in this book is determined by an algorithm for calculating the similarity of images. The image descriptions were generated with PowerPoint.

With the trained generative model it is now in principle possible to generate an infinite number of grasslands for potential insects. Furthermore, some grasslands look almost like paintings and could be sold as artworks.

## Generated texts and images

### 1

Grasslands for insects are the most striking feature of Africa from a cosmopolitan perspective. In the absence of the continental rainforest, the vast areas of forested grasslands provide the main habitats for many of the world's most important insects.

### 2

AI-driven grasslands for insects:  
Theory, modelling and applications

#### Abstract

Theories and models are developed to explain, among others, the impacts of the urbanization of grasslands on agricultural organisms using the “urban-grass landscape gradient” as the conceptual framework. The simulated grassland consists of four grass species that exhibit various degrees of habitat heterogeneity (the number of patchy and continuous patches in the model). Our work with a new model of insect–insect–grassland interactions has made it possible to show that insects’ use of arable grasslands for plant nutrition is driven strongly by their interactions with both the vegetation community and the insects living there. This result is important for understanding the influence of the vegetation on soil microflora and, consequently, the environment surrounding the plants and insects. Possible applications of insect–insect–grassland interactions are among others, plant conservation, soil conservation, plant biodiversity and productivity optimization on marginal soils with very low nutrient availability.



Close up of grass



A bird in a nest

Grassland-Insect-Interaction is the next great research frontier in ecological entomology. The aim is to examine how GI-I can be used and interpreted in terms of grassland vegetation.

Grassland-Insect-Interaction is the next generation of ecology, entomology and conservation biology studies. It will build on results from projects in a range of research fields across Europe and will provide a collaborative basis between grassland and insect.

Grassland-Insect-Interaction is the next step up in the evolution of animal social systems.

Grassland-Insect-Interaction is the most common cause of the decline in the European grassland ecosystem. These insects are often resistant to the control methods they are subject to in the grassland ecosystem.

Grassland-Insect-Interaction is the largest and the only global research centre for insect-insect-insect interactions. We are using the highest science and technological level to explore, understand and address the challenges of these interactions.

Grassland-Insect-Interaction is not a real field. I think that's a very important point but, for starters, those aren't the kind of things they would say in a press conference. It's difficult for anyone not involved in the system to identify the problem.

Grasslands for insects are one of the most important ecosystems on earth, being home to the largest number of species for mammals. These ecosystems have the potential to play an important role in the food web as a whole; however, they are underdeveloped in many places, and we lack an understanding of how these communities work. While the interactions of organisms with their environment are primarily driven by the chemical composition of the environment, it has become increasingly apparent that, at a more fundamental level, there is a substantial complexity to the ways in which organisms interact with their environment.



Official grasslands for insects are globally threatened.

One of the major threats these communities face is the widespread urbanization of agriculture as a consequence of urban development and agricultural mechanization.

Insects are one of the main components of our ecosystems. However, these are living beings that have to depend on external elements like food, water and other things to survive and also have to be fed, and then they die because they can't consume their own organs. We have always been taught that all animals have a right to their own resources, but how much more obvious it is that we've left the rest of the animals out in the cold.



A close-up of a grass

Forget the high-tech, no-waste methods of urban planning (if they even exist). Forget about the endless supply of the latest, most sophisticated technology ever developed. Instead, look to grassland ecosystems and agriculture's humble beginnings—and you'll find the origin of a new world of agriculture and the human mind, or as we'll call it, the world of the mind. The original human mind was created in Africa.

But it's no longer the only world, and it's definitely not the first time humans have been able to exist in more than one world (or maybe it was before, but that's a whole other story).

This is an attempt to create a 3D world model and set of data for a hypothetical insect life form. From here on out, the world model consists of an insect body and set of body parts, each modeled and defined. The data is the insect's biology, appearance, behavior and appearance. The insects are not in a position to make a choice about their appearance and behavior. All their senses are attuned to the environmental signals. The insects are subject to all sorts of influences that affect their survival, thus making the choices they make difficult. But scientists believe they are responding to a simple psychological choice: whether or not they wish to mate in the presence of others.

Quantum grassland is a term used to describe “a network that consists of many grassland cells whose edges are strongly coupled or even nearly so.” Although it is difficult to define exactly what constitutes a network of grassland cells because of the diversity of processes that are involved in the functioning of the system, we were able to identify a core network of cells organized around a central core.

It was observed to be a regular hexagonal grid, but, due to technical difficulties, I had to zoom in by using the mouse wheel. My resolution is probably a little low, since the grid isn't very detailed.



A close-up of a grass



A picture containing tree, outdoor, outdoor object, web

Grassland, often called grasslands, is a grassland type found in the Northern Hemisphere. It is found on dry land, typically in a grassland prairie or other broadleaf prairie type of cover, however it can occur in other types of habitats as well, such as shrublands and forests. It is an annual plant that, like all grass plants, can easily be moved or moved by hand in order to control its movement. The grass plant can be controlled either manually or by a motion controller which can be used by anyone who wishes to monitor the movement of the grass plants and automatically control the watering levels. Because of this, many types of machinery have been used to control the movement of this plant. It is quite simple to use a weed eater to cut the grass plants into small individual squares. Most weed eaters consist of a small motor with a propeller at the end to move the weed eater from one location to another. The main drawback of the known motion controller is that it is sensitive to human errors.

### Intelligent grasslands for insects

Our grasslands are no longer a mere expanse of grass. They are no longer just an array of grass. They are actually an excellent opportunity for agriculture. The plants are extremely efficient at moving nutrients and can even store water and can form a very rich soil.





A picture containing grass, outdoor, plant





A patch of grass with small white flowers

Grasslands for insects, if they are well signposted, are a fantastic option to relax and unwind in the countryside. They are a great way to see and collect different types of dragonflies and damselflies, dragon spiders and moths as well as butterflies.



A leaf on the ground



A picture containing outdoor



Close up of grass



## 12

Squared grasslands for insects are the best places to find insects in their natural environment. Grasshoppers are a common species of the genus *Eresimus*. They prefer to munch on weeds, but are also adapted to other habitats. Grasshoppers are a specific type of grasshopper that are among the smallest in the animal kingdom. The word “grasshopper” is a portmanteau of “grass” and “hopper”, which is derived from the Ancient Greek word for “grass” (*harpos*).

## 13

### Engineered grasslands for insects

#### Abstract:

Grassland restoration, which has the objective to improve ecosystems by increasing diversity and abundance of plant functional traits by using biological and aesthetic restoration techniques, has attracted considerable attention.

The key process in the restoration of grassland is the transformation of native grassland into native grassland. It is also often called bioturbation. Bioturbation (from the Latin *boto*, meaning “eat, drink”, and *turba* “turbulent”) is the practice by which a biological system is disturbed and affected by forces acting on it.



Close up of grass

AI-driven grasslands for insects is widely recognized as the best option. However, the use of synthetic biology in insect systems has also revealed fascinating possibilities within a larger scheme of integrated ecosystem management (IEM), such as the possibility of building bioengineered insect populations to respond to changing environmental conditions and to provide a mechanism for the generation of new evolutionary adaptations.

## 15

Artificial grasslands for insects are a new approach in landscape management. The objective of the project was to investigate the feasibility of applying new materials to landscapes to manage and/or to be managed.

## 16

An artificial grassland is a grassland set up to attract insects, while the grass is replaced by the artificial plant. This is done to prevent the development of invasive grass species in the surrounding area.





A picture containing grass, outdoor, plant



A group of flowers in a grassy area

17

Artificial grasslands for insects are made with grasslands, which are usually composed of one or more species of grasses.

18

Artificial grasslands for insects are constructed on the basis of various polymeric materials. On the basis of inorganic materials or polymeric materials, artificial grasslands for insects are produced at home and applied to a wide variety of uses.



A squirrel in a pile of hay

## 19

Colorful grassland for insects, with trees and shrubs, and the river flowing through the landscape

The summer months on low hills in the eastern edge of the Great Smoky Mountains National Park are ideal for hiking, kayaking and fly fishing to name a few outdoor activities.

## 20

Clean-cut grasslands for insects by the thousands

A young butterfly has flown over an old abandoned cornfield. Its wings glow in the morning sun. Its wings are covered in dried blood. The butterflies are dead. A butterfly. A dead butterfly. That's not what we expected to see.





Close up of grass

Grasslands for insects, if they are well signposted, may be ignored. If it is important to know about your home range, then it would be better to visit a local specialist.



Close up of some grass



Close up of some grass



A picture containing outdoor, plant, tall





A picture containing grass, outdoor, plant

A computer grassland simulation (CGS) is a grassland simulation package that uses a distributed computational environment to simulate grassland systems for a variety of ecological and economic systems. A CGS simulates the dynamics of a landscape using a set of equations, including differential equations, algebra and arithmetic, and a set of numerical techniques, including boundary element, finite difference, finite volume and time-domain methods, boundary integral, central difference, finite element, finite element-polar approximations of differential operators, staggered grid, finite volume, finite element-polar grid, finite element-smoother approximation, finite element-parallel approximations, finite difference, finite difference-integral, finite element spectral, finite element interpolant, finite element quadrature, finite element-slicing approximation, finite element-molecular wave function, finite element-momentum representation and finite element-operator representations for the solution of the time-dependent elliptic boundary value problem.



Close up of grass



A birds nest in the grass



## Imprint

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This project is dedicated to the research of future actions for the conservation and promotion of biodiversity. The grasslands for insects collected in this book were made possible by several machine learning models.

