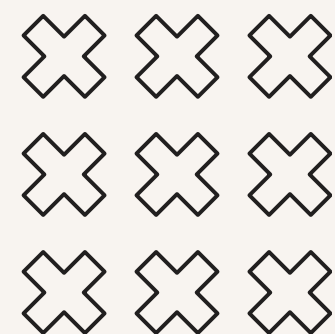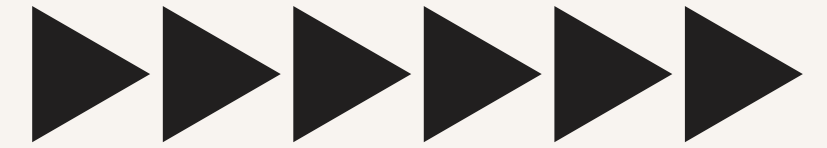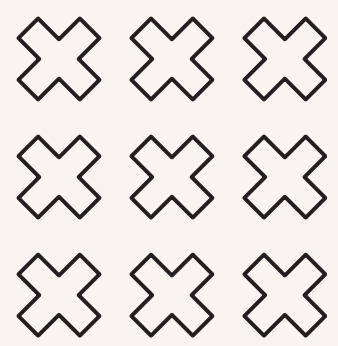# Getting Started with TensorFlow and Keras: A Beginner's Guide
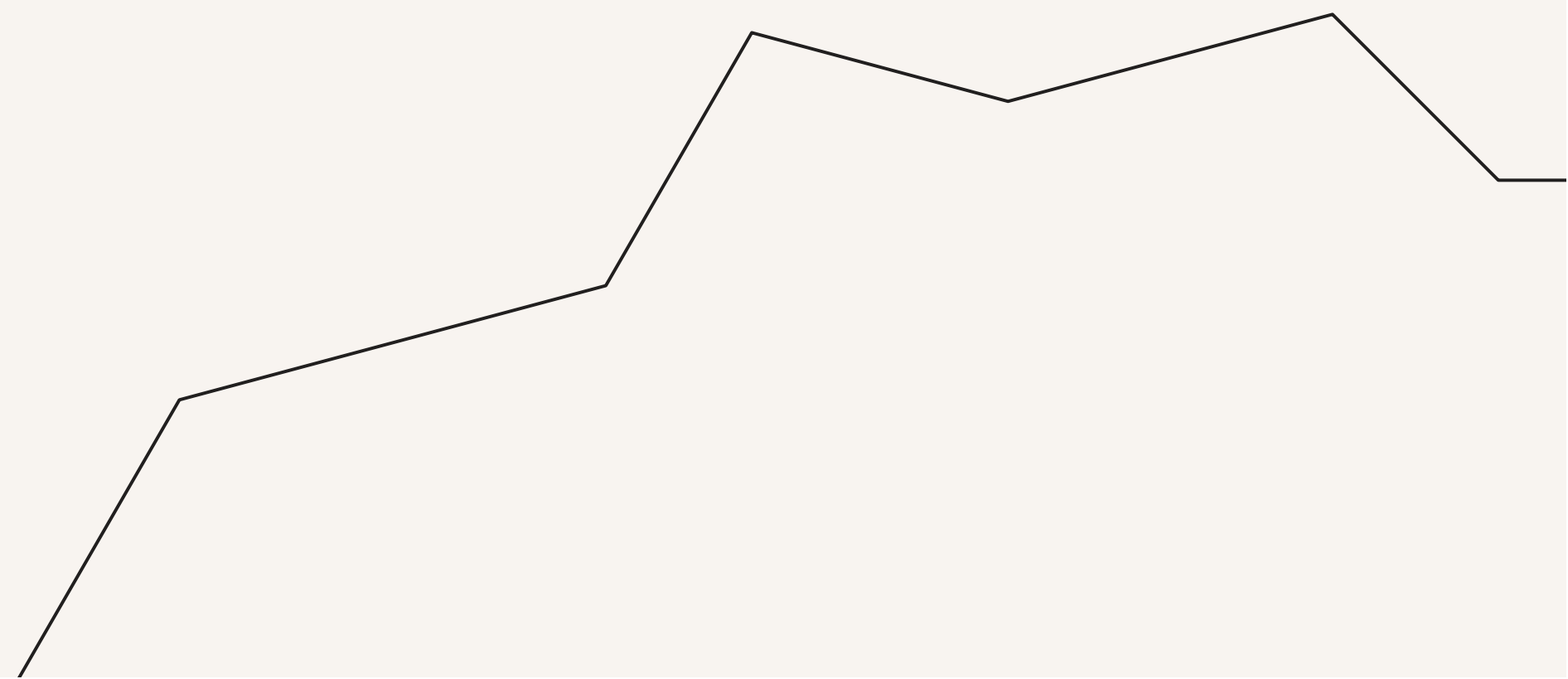
Introduction to TensorFlow and Keras

In this presentation, we will explore **TensorFlow** and **Keras**, two powerful tools for building **machine learning** models. Whether you're a beginner or looking to enhance your skills, this guide will provide you with essential insights and practical tips to get started effectively.
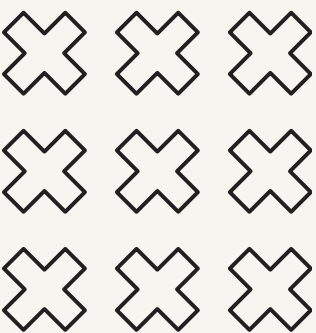
What is TensorFlow?

TensorFlow is an open-source library developed by Google for numerical computation and **machine learning**. It allows developers to create complex **neural networks** and is widely used in both research and production environments to build scalable machine learning applications.
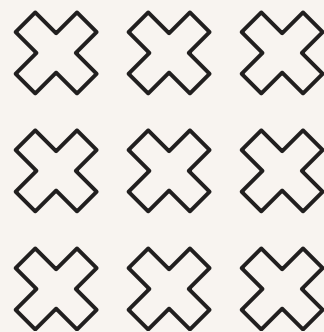
What is Keras?

Keras is a high-level API for building and training **deep learning** models. It runs on top of TensorFlow, providing an easy-to-use interface for creating neural networks. Keras simplifies the process of model development, making it accessible for beginners and experts alike.
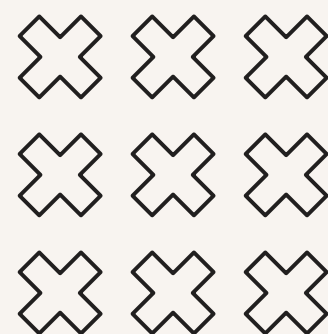
Setting Up Your Environment

To get started with TensorFlow and Keras, you need to set up your **development environment**. This includes installing Python, TensorFlow, and Keras. We will walk through the installation process and recommend best practices for managing your Python packages using **virtual environments**.
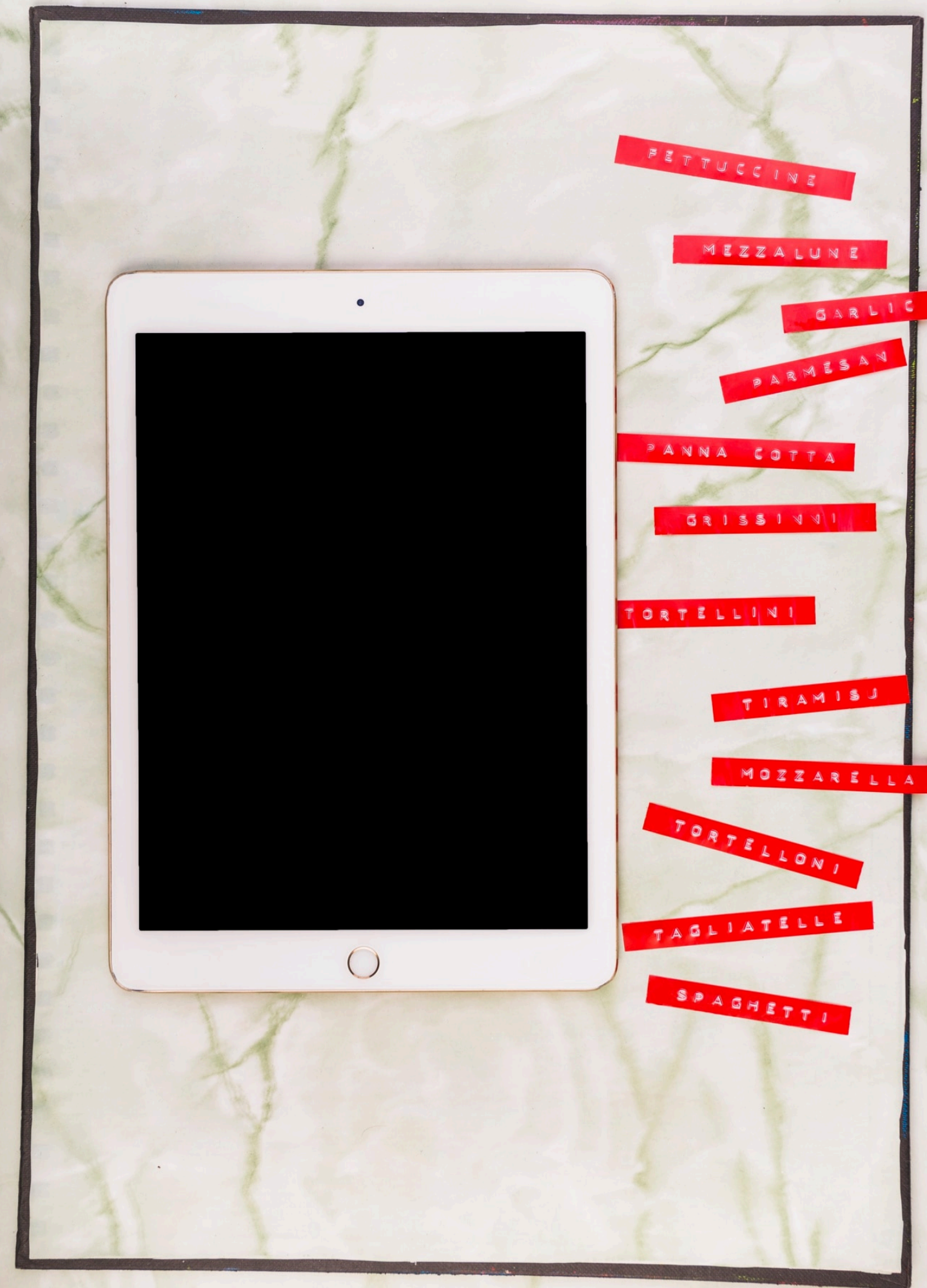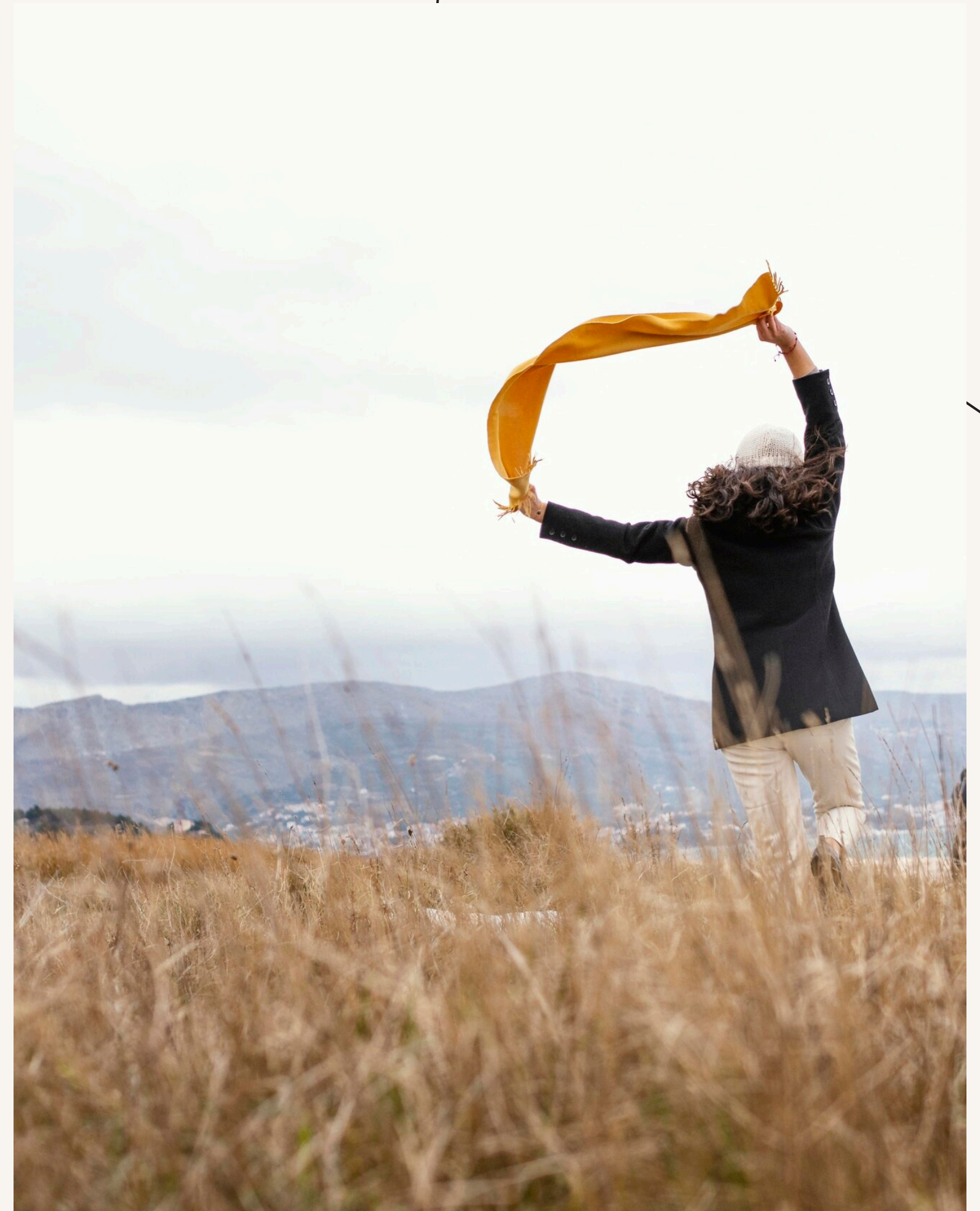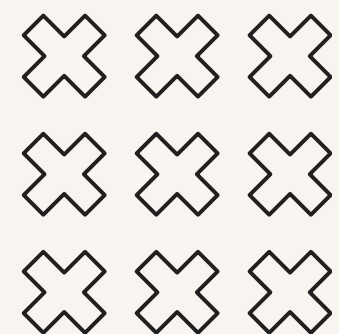
Building Your First Model

In this section, we will create a simple **neural network** using Keras. You will learn how to define a model, compile it, and fit it to your data. This hands-on approach will give you a foundational understanding of how to work with **layers**, **activation functions**, and **optimizers**.

Conclusion and Next Steps

Congratulations on taking your first steps with **TensorFlow** and **Keras**! This guide has provided you with the basics to start your journey in **machine learning**. Explore further by diving into more complex models, experimenting with datasets, and contributing to the community for continuous learning.

Thanks!