



# Week 1 resources

Below you'll find links to the research papers discussed in this weeks videos. You don't need to understand all the technical details discussed in these papers - **you have already seen the most important points you'll need to answer the quizzes** in the lecture videos.

However, if you'd like to take a closer look at the original research, you can read the papers and articles via the links below.

## Generative AI Lifecycle

- **[Generative AI on AWS: Building Context-Aware, Multimodal Reasoning Applications](#)** - This O'Reilly book dives deep into all phases of the generative AI lifecycle including model selection, fine-tuning, adapting, evaluation, deployment, and runtime optimizations.

## Transformer Architecture

- **[Attention is All You Need](#)** - This paper introduced the Transformer architecture, with the core “self-attention” mechanism. This article was the foundation for LLMs.
- **[BLOOM: BigScience 176B Model](#)** - BLOOM is a open-source LLM with 176B parameters trained in an open and transparent way. In this paper, the authors present a detailed discussion of the dataset and process used to train the model. You can also see a high-level overview of the model [here](#) .
- **[Vector Space Models](#)** - Series of lessons from DeepLearning.AI's Natural Language Processing specialization discussing the basics of vector space models and their use in language modeling.

## Pre-training and scaling laws

- **[Scaling Laws for Neural Language Models](#)** - empirical study by researchers at OpenAI exploring the scaling laws for large language models.

## Model architectures and pre-training objectives

- **[What Language Model Architecture and Pretraining Objective Work Best for Zero-Shot Generalization?](#)**  
- The paper examines modeling choices in large pre-trained language models and identifies the optimal approach for zero-shot generalization.

