Mathematics Behind Neural Networks

This workshop aims to introduce participants to the fundamental mathematical concepts that underlie neural networks. Participants will use linear algebra, calculus, and optimization techniques, all of which are essential to understanding and working with neural networks.

The workshop will begin with an overview of the basic concepts of neural networks, including the architecture of a typical neural network and its various components. From there, participants will dive into the mathematical foundations of neural networks, starting with linear algebra and the role it plays in the structure and operation of neural networks. Participants will then explore the use of calculus in neural networks, specifically focusing on optimization techniques such as gradient descent and backpropagation.

Overall, this workshop will provide participants with a solid foundation in the mathematics of neural networks, enabling them to better understand and work with these powerful machine learning tools.