# Artificial Neural Network (ANN) Architecture

This document describes the architecture of the Artificial Neural Network (ANN) model used in the Customer Churn Analysis project.

## 1. Input Layer

- Input Features: 20 (after encoding and scaling)

## 2. Hidden Layers

- Layer 1: 64 neurons, ReLU activation, Dropout 0.2

- Layer 2: 32 neurons, ReLU activation, Dropout 0.2

## 3. Output Layer

- 1 Neuron, Sigmoid activation

## 4. Compilation Settings

- Optimizer: Adam

- Loss: Binary Crossentropy

- Metrics: Accuracy, F1 Score, AUC-ROC

## 5. Training Configuration

- Epochs: 50

- Batch Size: 32

- Validation Split: 20%

- EarlyStopping enabled