# ANN Architecture

The following table documents the structure of the 1D-CNN used in our study. The architecture is defined as follows:

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| Layer | Parameters / Details |
| Conv1d | Input: 1 channel, Output: 32 filters, Kernel Size = 16, Stride = 1, Padding = 0 |
| BatchNorm1d | 32 channels |
| LeakyReLU |  |
| MaxPool1d | Kernel Size = 16, Stride = 16, Padding = 0 |
| Conv1d | Input: 32 channels, Output: 64 filters, Kernel Size = 8, Stride = 1, Padding = 0 |
| BatchNorm1d | 64 channels |
| LeakyReLU |  |
| MaxPool1d | Kernel Size = 16, Stride = 16, Padding = 0 |
| Conv1d | Input: 64 channels, Output: 128 filters, Kernel Size = 4, Stride = 1, Padding = 0 |
| BatchNorm1d | 128 channels |
| LeakyReLU |  |
| MaxPool1d | Kernel Size = 8, Stride = 8, Padding = 0 |
| Flatten | Starting from dimension 1 |
| Linear | Input Features: 128, Output Features: 1 |