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**YAPAY ZEKÂ**

**PROJE**

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**BİLGİSAYAR MÜHENDİSLİĞİ**

**2020/2021**

**İSKENDERUN TEKNİK ÜNİVERSİTESİ**

**MÜHENDİSLİK VE DOĞA BİLİMLERİ FAKÜLTESİ**

**Ocak 2021**

**1. Rapor Yapay Sinir Ağları**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Model | Activation Function | loss | Epoch | Çıkış  Fonksiyonu | Feature Selection | Feature Sayısı | Optimizer | Accuracy  (Train-Test) |
| 1 | (65-110-150) | Relu-sigmoid-tanh | Binary\_crossentropy | 900 | sigmoid | sfs | 9 | adam | 99.18-91.96 |
| 2 | (100-130-180) | Linear-relu-tanh | Mse | 500 | Softmax | Pca | 11 | RmsProp | 96.37 - 92.66 |
| 3 | (60-100-170) | Tanh-softplus-swish | Binary\_crossentropy | 800 | Sigmoid | Pca | 10 | adam | 96.81 - 92.36 |
| 4 | (80-140-180) | Sigmoid-elu-sigmoid | Binary\_crossentropy | 900 | Softmax | Pca | 14 | adam | 96.35 - 92.58 |
| 5 | (90-160-220) | Relu-sigmoid-tanh | Binary\_crossentropy | 1200 | Softmax | sfs | 9 | adam | 99.83 - 90.97 |
| 6 | (140-100-220) | Linear-tanh-tanh | Binary\_crossentropy | 480 | Softmax | sfs | 8 | adam | 97.73 - 92.66 |
| 7 | (60-120-200) | Relu-relu-tanh | Binary\_crossentropy | 500 | Softmax | Pca | 15 | adam | 95.36 - 92.43 |
| 8 | (60-100-150) | linear-tanh-tanh | Mse | 550 | Softmax | Sfs | 10 | adam | 97.42 - 92.03 |
| 9 | (70-110-180) | Linear-tanh-tanh | Binary\_crossentropy | 480 | Softmax | Sfs | 8 | adam | 96.08 - 92.73 |
| 10 | (140-100-220) | Relu,tanh,sigmoid | Poisson | 600 | Softmax | Sfs | 10 | adam | 94.30 - 92.66 |
| 11 | (65-140-140) | Linear-relu-tanh | Binary\_crossentropy | 480 | Softmax | Sfs | 8 | adam | 96.16 - 93.10 |

**Rapor Yapay Sinir Ağları (Yeni Veriseti)**

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| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Model | Activation Function | loss | Epoch | Çıkış  Fonksiyonu | Optimizer | Accuracy  (Train-Test) |
| 1 | (25,100,100) | Tanh-relu-elu-sigmoid | Binary\_crossentropy | 800 | sigmoid | adam | 99.91-98.12 |
| 2 | (75-100-200) | Tanh-relu-relu-sigmoid | Binary\_crossentropy | 900 | Sigmoid | Adam | 99.72 - 97.62 |
| 3 | (75-126-126) | Relu-tanh-tanh-softmax | Binary\_crossentropy | 450 | Softmax | Adam | 99.81 - 96.99 |
| 4 | (60-180-220) | Tanh-relu-relu-softmax | Binary\_crossentropy | 780 | Softmax | Adam | 100 - 96.24 |
| 5 | (85-190-235) | Linear-tanh-tanh | Categorical\_crossentropy | 500 | Sigmoid | Adam | 99.72 - 97.37 |
| 6 | (75-126-126) | Linear-swish-elu | Binary\_crossentropy | 450 | Softmax | Adam | 99.43 - 97.74 |
| 7 | (75-126-126) | Relu-sigmoid-swish | Mse | 500 | elu | Adam | 99.34 - 96.99 |
| 8 | (65-110-125) | Relu-tanh-tanh | Mse | 480 | Elu | RMSprop | 98.52-95.11 |
| 9 | (75-95-225) | Relu-tanh-tanh-softmax | Mse | 780 | Softmax | Adam | 99.62-97.74 |
| 10 | (90-190-245) | Linear-tanh-tanh | Categorical\_crossentropy | 490 | Softmax | RMSprop | 99.25 – 97.74 |