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| logo.jpg  **Artificial Neural Networks Course**  **Computer Science Department**  **Faculty of Computer and Information Sciences**  **Ain Shams University, Egypt** |
| **A Report of Final Project - RBFN**  **By** |

|  |  |
| --- | --- |
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| **Project Title** | |
| ***Head Orientation Recognition*** | |

**2nd Semester 2014\2015**

# **Results**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **# Epochs** | **Input layer** | | **Hidden layer** | | **Output layer** | |
| 50 | # Neurons | 2500 | # Hidden neurons | 3 | # Neurons | 3 |
|  |  | |  |  | **Accuracy** | 100% |

**Model 2.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **# Epochs** | **Input layer** | | **Hidden layer** | | **Output layer** | |
| 25 | # Neurons | 2500 | # Hidden neurons | 3 | # Neurons | 3 |
|  |  | |  |  | **Accuracy** | 100% |

**Model 3.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **# Epochs** | **Input layer** | | **Hidden layer** | | **Output layer** | |
| 10 | # Neurons | 2500 | # Hidden neurons | 3 | # Neurons | 3 |
|  |  | |  |  | **Accuracy** | 100% |

**Model 4.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **# Epochs** | **Input layer** | | **Hidden layer** | | **Output layer** | |
| 50 | # Neurons | 2500 | # Hidden neurons | 4 | # Neurons | 3 |
|  |  | |  |  | **Accuracy** | 100% |

**Model 5.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **# Epochs** | **Input layer** | | **Hidden layer** | | **Output layer** | |
| 50 | # Neurons | 2500 | # Hidden neurons | 5 | # Neurons | 3 |
|  |  | |  |  | **Accuracy** | 100% |

**Model 6.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **# Epochs** | **Input layer** | | **Hidden layer** | | **Output layer** | |
| 50 | # Neurons | 2500 | # Hidden neurons | 10 | # Neurons | 3 |
|  |  | |  |  | **Accuracy** | 100% |

**Model 7.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **# Epochs** | **Input layer** | | **Hidden layer** | | **Output layer** | |
| 50 | # Neurons | 2500 | # Hidden neurons | 2 | # Neurons | 3 |
|  |  | |  |  | **Accuracy** | 66% |

# **The Best Model**

In this section, mention the best model (that has the greatest accuracy) of your previous tried models.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **# Epochs** | **Input layer** | | **Hidden layer** | | **Output layer** | |
| 50 | # Neurons | 2500 | # Hidden neurons | 3 | # Neurons | 3 |
|  |  | |  |  | **Accuracy** | 100% |

# **Conclusion**

RBF gives high accuracy as long as number of clusters more than or equal to number of output neurons.

It takes less time to train than MLP and it also takes less epochs.