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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 classes.

It takes less time to train than MLP