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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** | |
| **"*Object Detection and Recognition*"** | |

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**2nd Semester 2017\2018**

# **RBFN Models (Results)**

Mention all your models (trials) you did in the following table format.

**(At least 5 trials)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **# Epochs** | **Input layer** | | **Hidden layer** | | **Output layer** | |
|  | # Neurons | 23 | # Hidden neurons | 1 | # Neurons | 15 |
| **Learning** **rate** | 0.1 | | **MSE threshold** | 0.01 | **Accuracy** | 30.76% |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **# Epochs** | **Input layer** | | **Hidden layer** | | **Output layer** | |
|  | # Neurons | 23 | # Hidden neurons | 1 | # Neurons | 15 |
| **Learning** **rate** | 0.2 | | **MSE threshold** | 0.01 | **Accuracy** | 42.3% |

**Model 3.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **# Epochs** | Input layer | | **Hidden layer** | | **Output layer** | |
|  | # Neurons | 23 | # Hidden neurons | 1 | # Neurons | 15 |
| **Learning** **rate** | 0.3 | | **MSE threshold** | 0.01 | **Accuracy** | 46.15% |

# **4.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **# Epochs** | **Input layer** | | **Hidden layer** | | **Output layer** | |
|  | # Neurons | 23 | # Hidden neurons | 1 | # Neurons | 17 |
| **Learning** **rate** | 0.3 | | **MSE threshold** | 0.01 | **Accuracy** | 50% |

# **5.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **# Epochs** | **Input layer** | | **Hidden layer** | | **Output layer** | |
|  | # Neurons | 23 | # Hidden neurons | 1 | # Neurons | 18 |
| **Learning** **rate** | 0.09 | | **MSE threshold** | 0.01 | **Accuracy** | 53.84% |

# **The Best RBFN 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** | |
|  | # Neurons | 23 | # Hidden neurons | 1 | # Neurons | 18 |
| **Learning** **rate** | 0.07 | | **MSE threshold** | .01 | **Accuracy** | 57.69% |