**Mainstream Programme – Artificial Intelligence Dept.**

**EAs Term Group–Project (COVER SHEET)**

**Discussions Scheduled for Week 14** *(Saturday, May 11th, 2024)***.**

**35**

* Print this cover sheet and attach it to a printed copy of the documentation.
* Please write all your names in Arabic & ensure your students’ IDs are correct.
* Handwritten Signatures for the attendance of all team members should be filled in before the discussion.
* Please attend the discussion on time *(announced separately)*.

**Project Name:**[8] NeuroEvolution: A Differential Evolution-based Optimizer for Neural Networks

**Team Number:**  ( 27)

**Team Information *(typed, not handwritten, except for the attendance signature)*:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **ID**  **[Ordered by ID]** | **Full Name**  **[In Arabic]** | **Attendance**  **[Handwritten Signature]** | **Final Grade** |
| **1** | 20210906 | مريم احمد محمود محمد |  |  |
| **2** | 20210919 | مريم عمادالدين عباس سعيد |  |  |
| **3** | 20210964 | منه الله هرمس مصطفى محمد |  |  |
| **4** | 20211017 | نورهان فؤاد محمد ابو سريع |  |  |
| **5** | 20210388 | زينب هاشم عبدالله الخولى |  |  |
| **6** | 20210385 | زينب تامر اسماعيل وهبه |  |  |
| **7** |  |  |  |  |

**Grading Criteria:**

|  |  |
| --- | --- |
| **Common Criteria** | **Grade** |
| **1. Documentation** | /MAX |
| **2. Plotting and Comparing results** | /MAX |
| **3. Graphical User Interface** | /MAX |

|  |  |
| --- | --- |
| **Bonus** | **Grade** |
| **Investigating the effect of multiple (at least 2) initialisation approaches** | /MAX |
| **Investigating the effect of over-selection for large populations** | /MAX |
| **Educational visual interface** | /MAX |

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| --- | --- | --- | --- | --- | --- |
| **Idea #** |  | | | | **Comments** |
| **1** | **Constraints Handling**  **[ / MAX ]** | **Objective Function**  **[ / MAX ]** | **Correct usage of Dataset**  **[ / MAX ]** | **Implementing Evolutionary Algorithm**  **[ / MAX ]** |  |
|  |  |  |  |  |
| **2** | **5 Optimization Functions**  **[ / MAX ]** | **Genetic Algorithm**  **[ / MAX ]** | **Differential Evolution**  **[ / MAX ]** | **Analysis and Comparison**  **[ / MAX ]** |  |
|  |  |  |  |  |
| **3** | **3 Optimization Functions**  **[ / MAX ]** | **Swarm Intelligence Alg. 1**  **[ / MAX ]** | **Swarm Intelligence Alg. 2**  **[ / MAX ]** | **Analysis and Comparison**  **[ / MAX ]** |  |
|  |  |  |  |  |
| **4 & 5** | **Evolutionary Algorithm**  **[ / MAX ]** | **Coevolution**  **[ / MAX ]** | **Neural Network**  **[ / MAX ]** | **Correct Game Logic**  **[ / MAX ]** |  |
|  |  |  |  |  |
| **6** | **Correct Usage of DataSet**  **[ / MAX ]** | **Particle Swarm**  **Intelligence**  **[ / MAX ]** | **Simulated Annealing**  **[ / MAX ]** | **Analysis and Comparison**  **[ / MAX ]** |  |
|  |  |  |  |  |
| **7** | **Constraints Handling**  **[ / MAX ]** | **Particle Swarm Intelligence**  **[ / MAX ]** | **Complexity of Timetable**  **[ / MAX ]** |  |  |
|  |  |  |  |  |
| **8** | **Testing on Datasets**  **[ / MAX ]** | **Differential Evolution**  **[ / MAX ]** | **Neural Network Implementation**  **[ / MAX ]** | **Complexity of Neural Network Structure**  **[ / MAX ]** |  |
|  |  |  |  |  |