

Dept. of Computer Science and Software Engineering

**COMP 6721 : Applied Artificial Intelligence**

**Winter 2019-2020**

**Project 2**

Submitted To: **Dr. René Witte**

Submitted By:

Team **FL-G06**

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| **Name** | **Student ID** | **Email** |
| Mehrnaz Keshmirpour | 40063320 | keshmirpour@gmail.com |
| Naghmeh Shafiee Roudbari | 40129324 | naghmehshafiee@gmail.com |
| Jasmine Kaur | 40103309 | jasmine14concordia@gmail.com |

**Analysis**

* **Accuracy** = (number of instances correctly classified / Total number of instances) \* 100

= (738/800)\*100

= **92.25%**

|  |  |  |
| --- | --- | --- |
|  | **Instance in class Spam** | **Instance in class Ham** |
| **Model identified as spam** | 344 | 56 |
| **Model identified as ham** | 6 | 394 |

* **Precision(spam) =** number of instances that are in class Spam & model labeled as spam / total number of instances model labeled as Spam

**=** 344/ (344+56)

**= 0.86**

* **Recall(spam) =** number of instances that are in class Spam & model labeled as spam / all instances in class Spam

**=** 344/ (344+6)

**= 0.983**

* **F-measure** (a weighted combination of precision & recall)

**F = (β2+1)\*PR / (β2P+R)**; β = 1 since, precision and recall have same importance

**=** (2\*0.86\*0.983) /(0.983+0.86)

**=** 1.69076 / 1.843

**= 0.917**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Precision** | **Recall** | **F1-measure** |
| **SPAM class** | 0.86 | 0.983 | 0.917 |
| **HAM class** | 0.985 | 0.875 | 0.927 |

* **Confusion Matrix / Contingency Table**

|  |  |  |  |
| --- | --- | --- | --- |
| correct class  (that should have  been assigned) | classes assigned by the learner | | |
| **Ham** | **Spam** | **Total** |
| **Ham** | 394 | 56 | 450 |
| **Spam** | 6 | 344 | 350 |

**References**