## **Logistic Regression:**

The values are in order: (C, solver, penalty)

| MODEL 1                             | Recall | F1     | Precision | Accuracy |
|-------------------------------------|--------|--------|-----------|----------|
| 50 words<br>(1, newton-cg, L2)      | 94.35% | 94.58% | 94.86%    | 94.63%   |
| 100 words<br>(1, newton-cg, L2)     | 95.23% | 95.64% | 96.12%    | 95.69%   |
| 500 words<br>(10, newton-cg, L2)    | 95.41% | 96.57% | 97.82%    | 96.65%   |
| 1000 words<br>(100, lbfgs, L2)      | 95.54% | 96.68% | 97.89%    | 96.75%   |
| 3000 words<br>(1000, liblinear, L1) | 95.01% | 96.45% | 98.02%    | 96.49%   |

| MODEL 2                            | Recall | F1     | Precision | Accuracy |
|------------------------------------|--------|--------|-----------|----------|
| 50 words<br>(1, lbfgs, L2)         | 94.53% | 95.37% | 96.30%    | 95.45%   |
| 100 words<br>(1, newton-cg, L2)    | 94.77% | 95.73% | 96.78%    | 95.81%   |
| 500 words<br>(1000, lbfgs, L2)     | 95.41% | 96.57% | 97.83%    | 96.65%   |
| 1000 words<br>(100, lbfgs, L2)     | 95.28% | 96.54% | 97.90%    | 96.63%   |
| 3000 words<br>(100, liblinear, L1) | 95.25% | 96.49% | 97.84%    | 96.51%   |

| MODEL 3                            | Recall | F1     | Precision | Accuracy |
|------------------------------------|--------|--------|-----------|----------|
| 50 words<br>(1, sag, L2)           | 94.62% | 95.43% | 96.37%    | 95.53%   |
| 100 words<br>(1000, liblinear, L1) | 95.23% | 95.70% | 96.30%    | 95.80%   |
| 500 words<br>(100, lbfgs, L2)      | 95.41% | 96.62% | 97.93%    | 96.70%   |
| 1000 words<br>(100, sag, L2)       | 95.39% | 96.53% | 97.91%    | 96.68%   |
| 3000 words<br>(1000, sag, L2)      | 95.23% | 96.48% | 97.79%    | 96.57%   |