

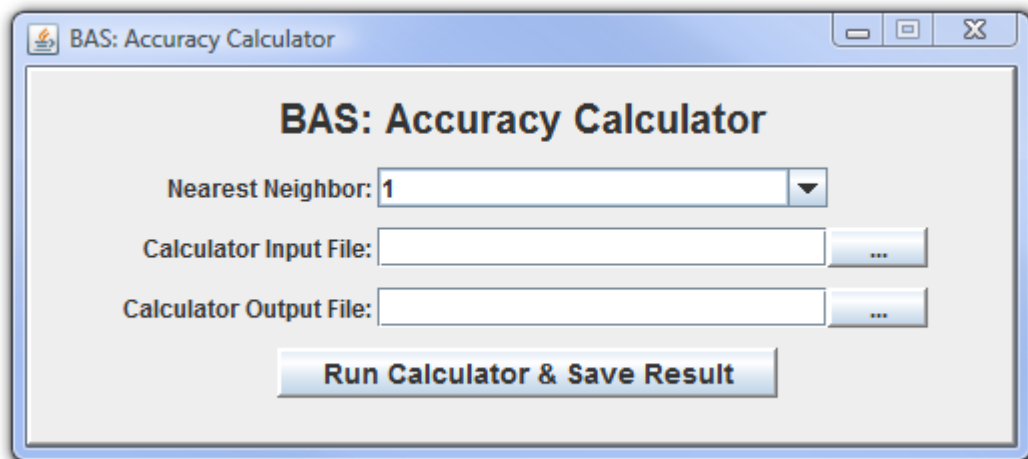
Authentication Experiments – Ideal Conditions/Weak Enrollment – Part II

1. Experiment Setup

- Please check to make sure you have completed part 'A', described in [the KBS Experiments Guide 'A'](#) document (Guide 'A'). The results created from tasks in that guide are prerequisites for these experiments.
- You should have three Desktop Free and three Laptop Free results files, a 9N, 15N, and 21N comma delimited file in your DeskFree and LapFree results directory. If not, please check to ensure all Guide 'A' steps are complete before continuing.

2. Calculate Accuracy

- a. Launch 'Calculator.bat' from your BAS directory.



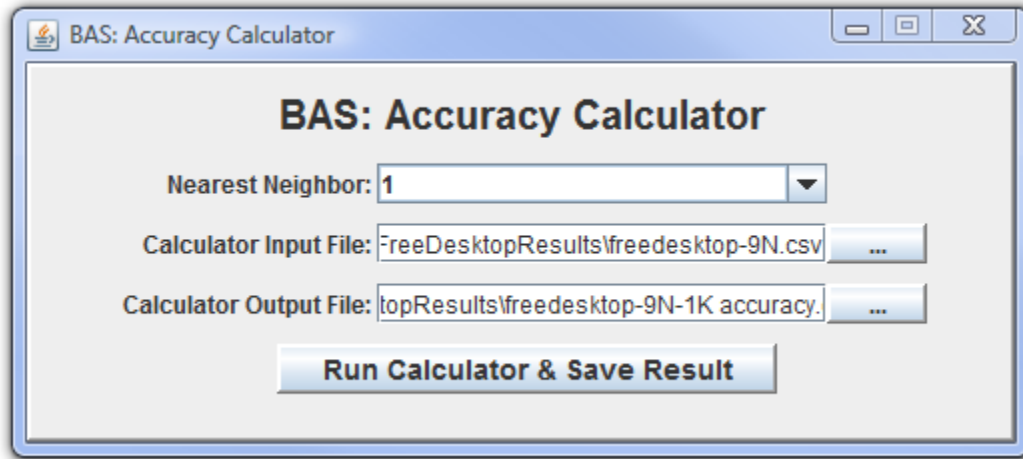
- b. DesktopFree

Select the 9N DeskFree result file you created in 'Guide A' from your results directory for the Calculator Input File. Assign an Output File name in your results directory. Run and save results for 1, 3, 5, 7, and 9 Nearest Neighbors.

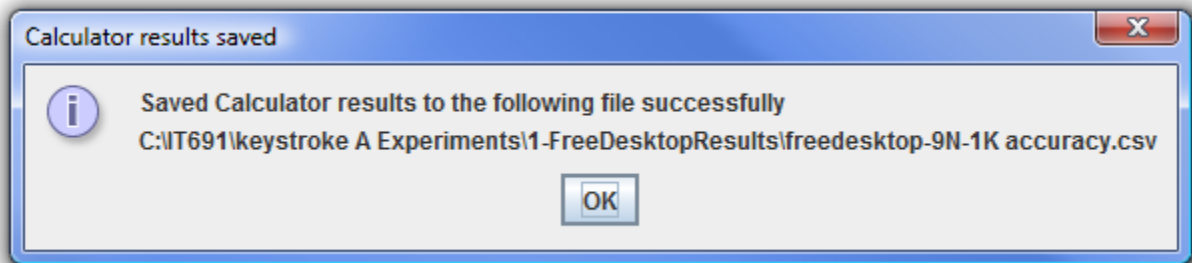
You will need to use a unique name for each Calculator Output File for each run or it will be overwritten. You will have a separate output file for each K -NN experiment.

At the end of all the processing, you will have a consolidated results file.

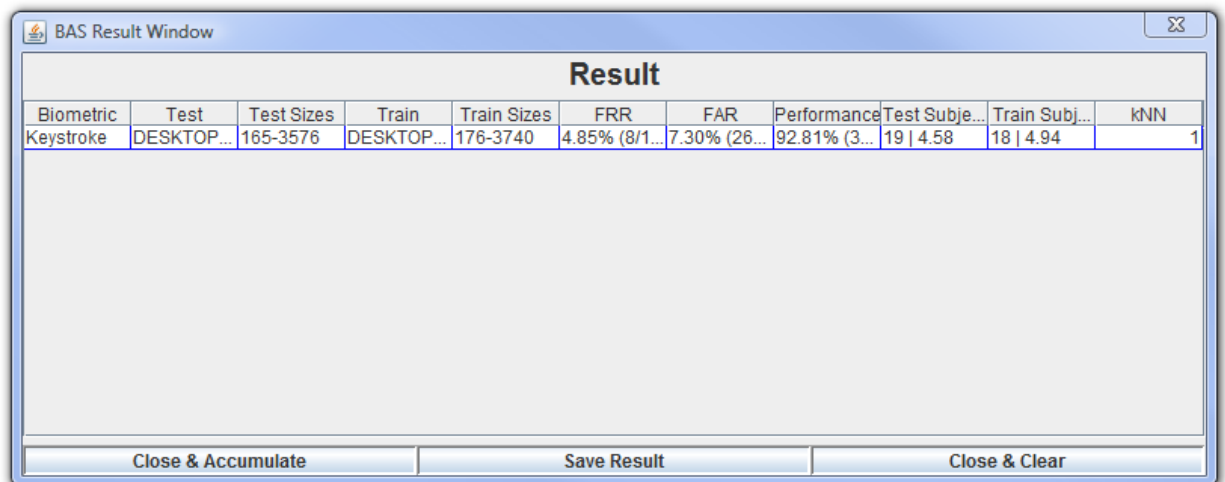
1. Lowest 9N Choices/1NN Experiment



- After processing, you should see a screen similar to:



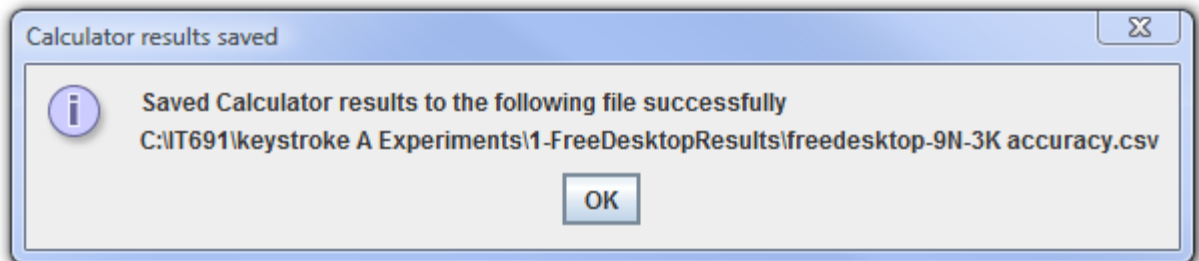
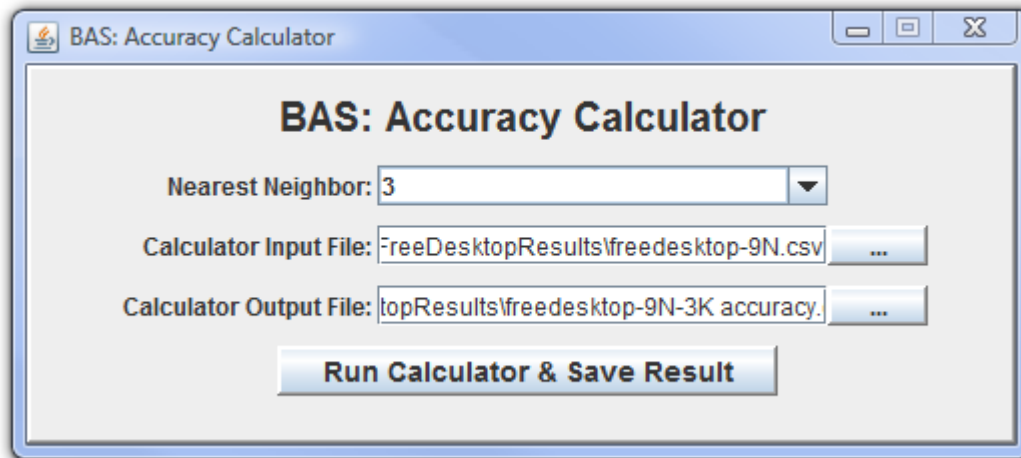
- Press 'OK', and a screen similar to the following should display:

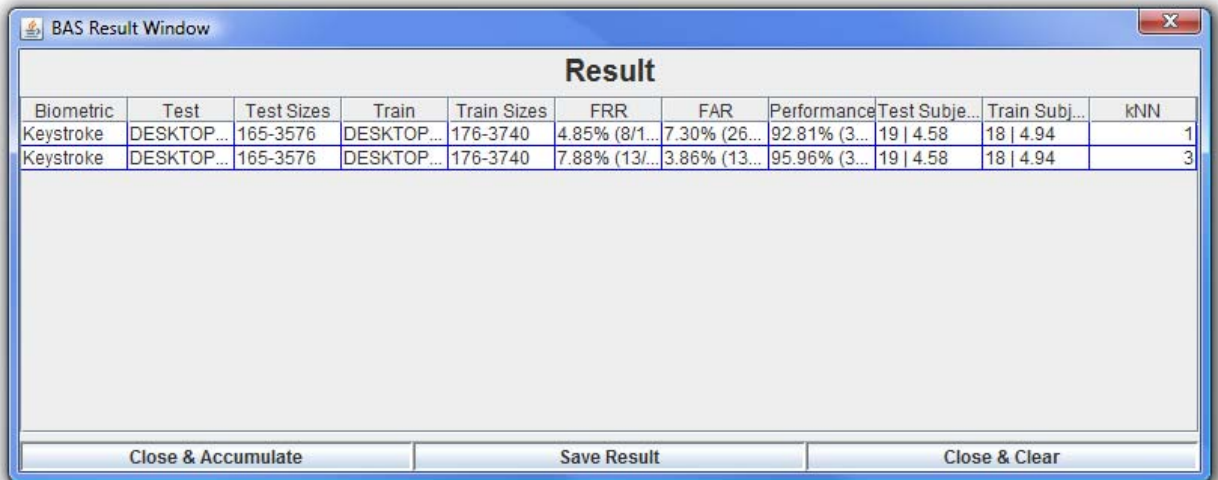


Press 'Close & Accumulate' and repeat for 3, 5, 7, and 9 NN. Be sure to change the Nearest Neighbor value and Output File name. The input file will remain the same for each experiment in this set.

Remember to continue selecting 'Close & Accumulate' in the results window for each subsequent run.

2. Lowest 9N Choices/3NN Experiment





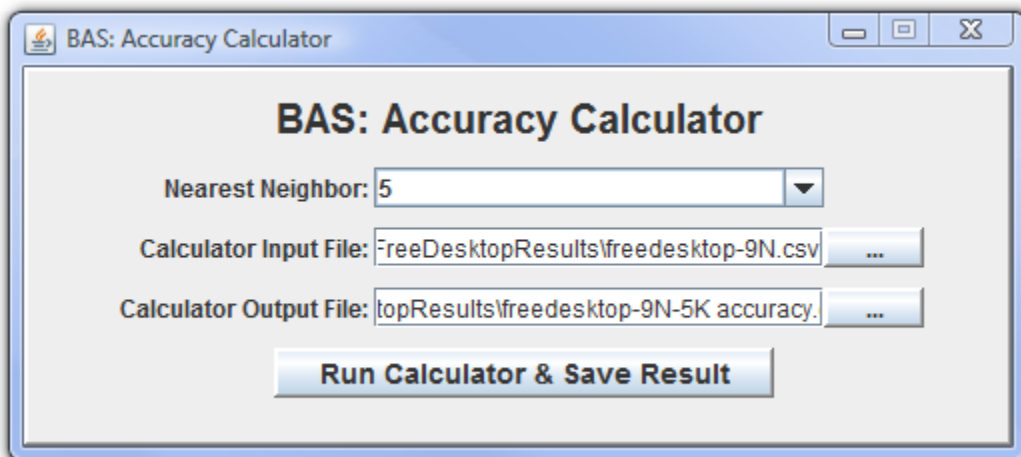
BAS Result Window

Result

Biometric	Test	Test Sizes	Train	Train Sizes	FRR	FAR	Performance	Test Subje...	Train Subj...	kNN
Keystroke	DESKTOP...	165-3576	DESKTOP...	176-3740	4.85% (8/1...	7.30% (26...	92.81% (3...	19 4.58	18 4.94	1
Keystroke	DESKTOP...	165-3576	DESKTOP...	176-3740	7.88% (13/...	3.86% (13...	95.96% (3...	19 4.58	18 4.94	3

Close & Accumulate Save Result Close & Clear

3. Lowest 9N Choices/5NN Experiment



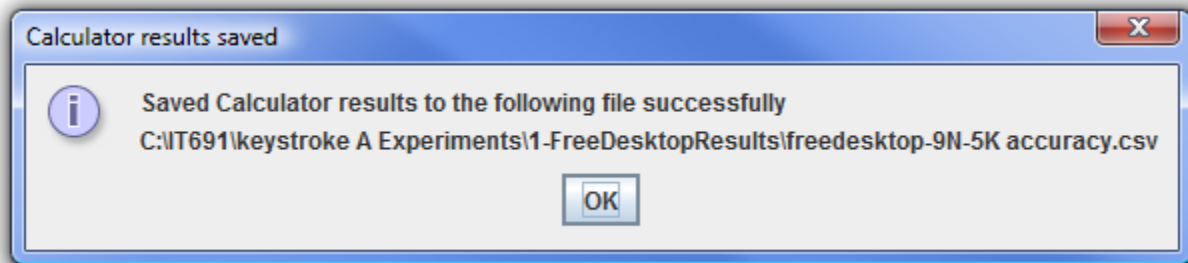
BAS: Accuracy Calculator

Nearest Neighbor: 5

Calculator Input File: FreeDesktopResults\Freedesktop-9N.csv

Calculator Output File: topResults\Freedesktop-9N-5K accuracy.csv

Run Calculator & Save Result



Calculator results saved

Saved Calculator results to the following file successfully
C:\IT691\keystroke A Experiments\1-FreeDesktopResults\Freedesktop-9N-5K accuracy.csv

OK

BAS Result Window

Result

Biometric	Test	Test Sizes	Train	Train Sizes	FRR	FAR	Performance	Test Subje...	Train Subj...	kNN
Keystroke	DESKTOP...	165-3576	DESKTOP...	176-3740	4.85% (8/1...	7.30% (26...	92.81% (3...	19 4.58	18 4.94	1
Keystroke	DESKTOP...	165-3576	DESKTOP...	176-3740	7.88% (13/...	3.86% (13...	95.96% (3...	19 4.58	18 4.94	3
Keystroke	DESKTOP...	165-3576	DESKTOP...	176-3740	6.67% (11/...	3.86% (13...	96.02% (3...	19 4.58	18 4.94	5

Close & Accumulate Save Result Close & Clear

4. Lowest 9N Choices/7NN Experiment

BAS: Accuracy Calculator

BAS: Accuracy Calculator


Nearest Neighbor:

Calculator Input File: ...

Calculator Output File: ...

Run Calculator & Save Result

Calculator results saved

 Saved Calculator results to the following file successfully
 C:\IT691\keystroke A Experiments\1-FreeDesktopResults\freedesktop-9N-7K accuracy.csv

BAS Result Window

Result

Biometric	Test	Test Sizes	Train	Train Sizes	FRR	FAR	Performance	Test Subje...	Train Subj...	kNN
Keystroke	DESKTOP...	165-3576	DESKTOP...	176-3740	4.85% (8/1...	7.30% (26...	92.81% (3...	19 4.58	18 4.94	1
Keystroke	DESKTOP...	165-3576	DESKTOP...	176-3740	7.88% (13/...	3.86% (13...	95.96% (3...	19 4.58	18 4.94	3
Keystroke	DESKTOP...	165-3576	DESKTOP...	176-3740	6.67% (11/...	3.86% (13...	96.02% (3...	19 4.58	18 4.94	5
Keystroke	DESKTOP...	165-3576	DESKTOP...	176-3740	4.85% (8/1...	3.89% (13...	96.07% (3...	19 4.58	18 4.94	7

Close & Accumulate Save Result Close & Clear

5. Lowest 9N Choices/9NN Experiment

BAS: Accuracy Calculator

Nearest Neighbor:

Calculator Input File: ...

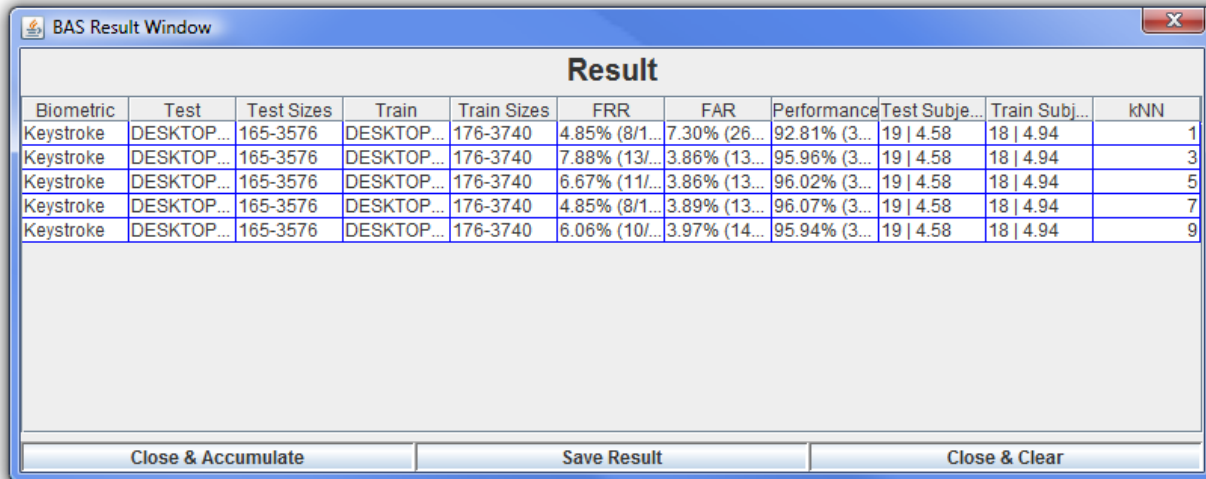
Calculator Output File: ...

Run Calculator & Save Result

Calculator results saved

i Saved Calculator results to the following file successfully
 C:\IT691\keystroke A Experiments\1-FreeDesktopResults\freedesktop-9N-9K accuracy.csv

OK



The screenshot shows a window titled "BAS Result Window" with a "Result" header. Below the header is a table with 11 columns: Biometric, Test, Test Sizes, Train, Train Sizes, FRR, FAR, Performance, Test Subje..., Train Subj..., and kNN. The table contains five rows of data for Keystroke tests. At the bottom of the window are three buttons: "Close & Accumulate", "Save Result", and "Close & Clear".

Biometric	Test	Test Sizes	Train	Train Sizes	FRR	FAR	Performance	Test Subje...	Train Subj...	kNN
Keystroke	DESKTOP...	165-3576	DESKTOP...	176-3740	4.85% (8/1...	7.30% (26...	92.81% (3...	19 4.58	18 4.94	1
Keystroke	DESKTOP...	165-3576	DESKTOP...	176-3740	7.88% (13/...	3.86% (13...	95.96% (3...	19 4.58	18 4.94	3
Keystroke	DESKTOP...	165-3576	DESKTOP...	176-3740	6.67% (11/...	3.86% (13...	96.02% (3...	19 4.58	18 4.94	5
Keystroke	DESKTOP...	165-3576	DESKTOP...	176-3740	4.85% (8/1...	3.89% (13...	96.07% (3...	19 4.58	18 4.94	7
Keystroke	DESKTOP...	165-3576	DESKTOP...	176-3740	6.06% (10/...	3.97% (14...	95.94% (3...	19 4.58	18 4.94	9

6. Save Accumulated Results

Press 'Save Result'. Change the path to your results directory for DeskFree and assign a unique name to the HTML file. Press 'Close & Clear' to close the results window.

7. Repeat the above DeskFree experiments for the 'Lowest 15 N' and '21 N' / 1NN, 3NN, 5NN, 7NN, and 9NN'
8. Repeat using the LapFree results from 'Guide A'.
9. Submit the three accumulated HTML results files for the DeskFree and three accumulated HTML results files for the LapFree experiments. Each should have five rows, one for 1NN, 3NN, 5NN, 7NN and 9NN. One file is for the lowest 9N, 15N, and 21N choices.