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**Conclusion**

I wrote an excel function to help me generate the correct value for all the data. After generating the data, I used the sum function to determine how many FR/TA or FA/TR are there for each threshold.

According to the data for the entire class, I think the system will perform well at threshold 0.07. At this threshold, it is pretty easy for people to verify themselves with a TAR of 41% while it is difficult for people to impersonate others since the FAR is only at 7%. However, if you are a system administrator, threshold 0.02 will be best because it has the least false acceptances rate. But with that threshold, it is a disaster for the users, they can hardly verify themselves. Having higher threshold in the system allows people to easily verify themselves but it also opens up the window for others to impersonate others, therefore it will be a bad system for security.

According to the entire class data, there is no equal error rate, however for threshold 0.11 the FAR and FRR is only 0.04 apart.