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## Two CIS Students are Winners on Science Day

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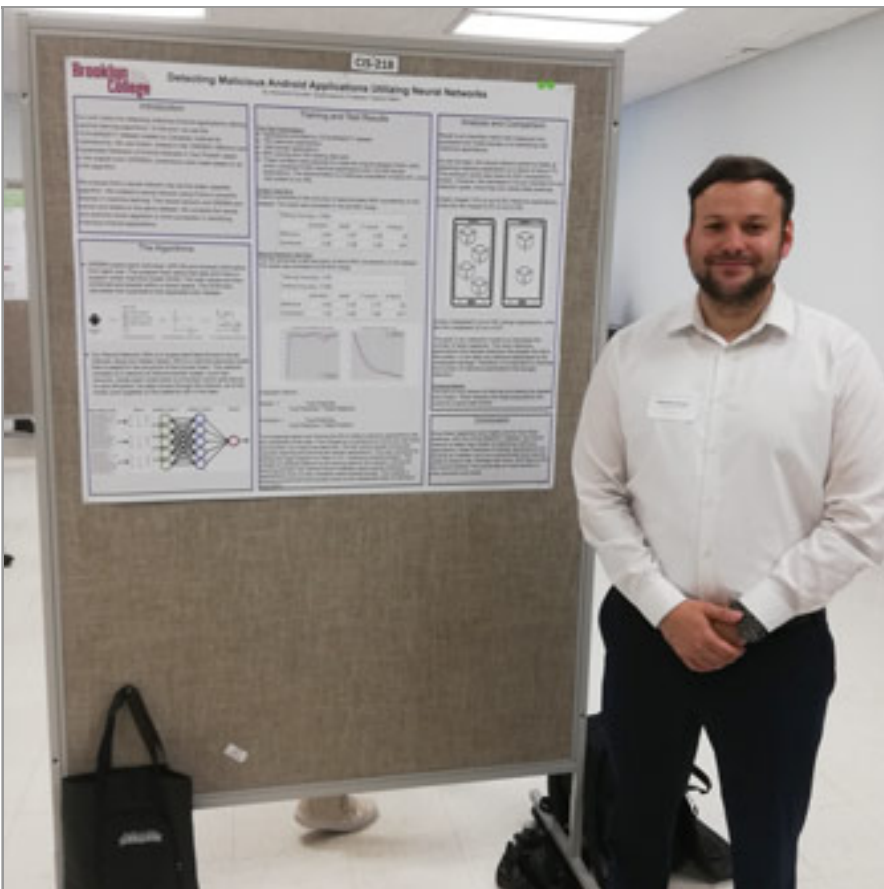
The CIS Department is a power in student research at Brooklyn College. CIS had two winners at Science Day in the Undergraduate Division, both of which tied for second place in the Undergraduate Division. Aleksandr Kovalev, mentored by Professor Tzipora Halevi, on Android malware detection and Joshua N. Sash, mentored by Professor Hui Chen, on determining the accuracy of code-similarity programs.

### Alex Kovalev

Alex Kovalev's presented his work on use of neural networks to detect malicious Android applications. The project introduced a newly designed neural network for detecting malware, based on the features extracted from Android .apk files. The proposed Neural Network (NN) is a supervised feed-forward network with two hidden layers. The algorithm was tested against two existing datasets. Multiple tests were run where the data was split into 66% training data and 33% testing data. The NN achieved a test accuracy of about 95% consistently on the dataset and the recall was in the range of 92-94%. The classification results were compared to the ones obtained from a previous algorithm (Drebin) and the strengths and weaknesses of both methods were analyzed. Alex was mentored by Prof. Tzipora Halevi.

### Joshua N. Sash

Joshua N. Sash show-cased his work entitled "Determining Accuracy of Code Similarity Programs" in the Brooklyn College's annual Science Day event in a poster presentation. He examined a few code similarity programs with potential applications in automated plagiarism detection, for which, he devised two strategies, comparing program code directly, and comparing changsets obtained from a source code management system, applied them to program code and revision histories of ~100 students, and obtained encouraging results. Joshua's work was advised by Professor Hui Chen.



Aleksandr Kovalev



Joshua N. Sash

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