



PARTNER PREFERENCE TRACKER: AN OPEN SOURCE RESEARCH TOOL FOR BEHAVIORAL ANALYSIS

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PROJECT SUMMARY:

The applications of computer vision have become increasingly broad over the past decade, enough so that applications of the tool can now be seen in scientific research. In the field of behavioral neuroscience, it has been used to significantly improve the process of behavioral analysis in animal subjects. However, tools such as these are expensive and highly inaccessible, thus creating a barrier to what could be a much more convenient method of behavioral analysis.

To overcome this barrier, many efforts have been made in academia to develop open-source tools for animal behavioral analysis. Even so, an open-source tool specifically for the analysis of rodent reproductive behavior has not yet been developed. A tool like this would not only contribute to open-source, but also enhance the learning experience for students working in the behavioral neuroscience laboratory at SU. In response to this gap in resources, I will create a tool using computer vision that will assist with behavioral analysis of rats in the partner preference test. The tool will be able to track the timing and the number of entries and exits that a rat subject makes between each section of a plexiglas arena. The timing and number of entries and exits are both commonly used in the partner preference tests to quantify a subject's sexual motivation by determining if they would prefer to spend time with a social stimulus or a sexual stimulus.
