In the current directory, stm_vector_v1.cpp contains the unmodified (no improvements added) version of our STM implementation, and stm_vector_v2.cpp contains the modified (improvements added) version of our STM implementation. We used the RSTM library and tested our programs on a virtual machine running Ubuntu 18.04 with g++ version 7.3.0.

First, build RSTM as specified in the project instructions. Then, place “stm_vector_v1.cpp”, “stm_vector_v2.cpp”, “stm_vector_v1.h” , and “stm_vector_v2.h” in rstm/bench. In the same location in rstm/bench/CMakeLists.txt, where you added “main”, also add “stm_vector_v1” and “stm_vector_v2”. Then, move “run_stm.py” to rstm_build. This script calls the STM implementations with varying transaction sizes, operation ratios, and thread counts and outputs the performance results to a text file.

To run one of the programs, run:
cd rstm_build
make
python3 run_stm.py bench/stm_vector_v1SSB64

This will run version 1 of the STM vector and write the performance results (the units for which are seconds per 500,000 operations) to “results.txt”, which will also be located in rstm_build. To run version 2, change the above command to use stm_vector_v2SSB64 instead of stm_vector_v1SSB64. Also, if you’re going to run the program again, please move or rename “results.txt” before re-running, as by default the program will append to “results.txt” if it already exists.