TDT4200, Fall 2017

PS 4 -- GENANN & BLAS Optimizations

Deadline: Thursday Oct. 26 at 20.00 Contact course staff if you cannot meet the deadline.
Evaluation: Pass/Fail

Part 1 -- Programming

- **All problem sets are to be handed in INDIVIDUALLY.**
    You may discuss ideas with max. 1-2 collaborators and note them in the comments on the top of your code file, but code sharing is strongly discouraged. **Preferably seek help from TAs rather than get unclear/confusing advice from co-students!**
- **Code must compile and run on course servers.**

This assignment is based on the implementation of a general ANN, called `genann.c` at
https://github.com/codeplea/genann

We have helped you along by in-lining some comments in `genann_blas.c,` regarding what we would like you to optimize. You should do this optimization primarily by replacing some code with calls to a BLAS library (Basic Linear Algebra Subprogram, but feel free to do some profiling of the original code to verify where the implementations of the program spends most of its time, and optimize also other parts of the code.

If we had not given you such strong hints, the traces should definitely be used to decide which part of the code you should focus your optimizations on.

(Hint: there are a lot of double for-loops in the functions genann_train and genann_run)

You should test your optimizations of `genann_blas.c` by testing it with `example 1` and `example 4`, provided.

To pass this task, you at minimum need to replace the double for-loop in "TODO 2" `genann_blas.c` as commented in the code.

Note: Since this files is renamed over the original github implementation, you should also use the Makefile and .h files provided.