Fashion-MNIST Project

**Team:**  Mini-Project Group 1

**Members:** Phuc Trieu Tran, Stephen Homan

**Date:**  March 18, 2020

**Introduction**

Complete description of what you are investigating and how that relates to the course/textbook content or ANN literature.

In this assignment, we further explore the backpropagation algorithm and techniques to improve the performance of our network such as mini-batching, stochastic descent, softmax, and cross entropy. Specifically we work with a network similar to the one we designed for the backpropagation assignment, which was used to solve the MNIST digit classification problem.

**Methods**

Describe exactly what you did, in enough detail and with enough clarity that someone else could duplicate it. Short code listings (less than a page) should be put in-line, using formatted text (i.e., formatted like a decent IDE would). Ideally, the code should be indented/boxed/on a light grey background/whatever so that it stands out a a display element rather than body text. (Put lengthy code listings in appendices.) Make sure this includes descriptions of any data analysis you did.

**Results**

Describe what you saw. This should include appropriate and clear graphs; see the ANN literature and what you've seen in this class for guidance regarding the kinds of graphs that are generally found to be useful. Graphs should be easy to read, with labelled axes, appropriate and useful tick marks and tick labels, etc. Matlab makes it easy to produce high-quality graphs that you can save out as PDFs for incorporation into documents, so there is no excuse for poor quality graphs. Make sure that graphs are inserted into your document as numbered figures with useful captions; tabular data should be presented as tables, which are separately numbered (and of course also captioned). Your body text should use your figures to explain what you did and saw; neither figures nor body text is sufficient in itself. Review your CSS 301 materials and consult with the Writing Center if you need to.

**Conclusion**

states what you learned. This is different than "results" — "results" just presents data. Here you interpret it, indicate what it means, connect it to other concepts or others' results, etc.