These two references describe the two basic approaches I intend to take. One is varying the properties of a neural network to have it be more efficient, and the other is exploiting its properties that are ripe for parallelization to be more performant and do more work faster, using multiple cores, GPU hardware acceleration, or both.

Article Title: On the Computational Efficiency of Training Neural Networks

Authors: Roi Livni, Shai Shlev-Shwartz, Ohad Shamir

Conference Title: Advances in Neural Information Processing Systems 27

Pages: 855 – 863

Year: 2014

Editor: Z. Ghahramani and M. Welling and C. Cortes and N.d. Lawrence and K.q. Weinberger

Month: December

Location of Conference: Montreal, Canada

Publisher: Curran Associates, Inc.

URL: <http://papers.nips.cc/paper/5267-on-the-computational-efficiency-of-training-neural-networks.pdf>

Date Accessed: 9/18/2015

Article Title: Multicore and GPU Parallelization of Neural Networks for Face Recognition

Authors: Altaf Ahmad Huqqani, Erich Schikuta, Sicen Ye, Peng Chen

Conference Title: International Conference on Computational Science, ICCS

Pages: 349-358

Year: 2013

Volume: 18

Publisher: Elsevier B.V.

URL: <http://eprints.cs.univie.ac.at/3712/1/paper393.pdf>

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