Tiger Cluster Application

Daway Chou-Ren

- **Which system or systems you need to use**
  Tiger
- **A list of researchers who will need accounts**
  Daway Chou-Ren, dchouren@cs.princeton.edu
- **The faculty member(s) who is sponsoring the project**
  Szymon Rusinkiewicz, smr@cs.princeton.edu
- **The scientific background for your project including scientific merit of the proposed work**
  This project will apply deep learning techniques to build a spatial/temporal map of land-use in urban environments. We will label image locations, detect human sentiment within these images, and classify locations based on associated human emotions. These classifications will be semi-supervised, and we will explore different manual tuning parameters for optimal classification.
- **The programming approach for your project:**
  - **Programming language**
    Bash, Python
  - **Parallelization mechanism (MPI or OpenMP)**
    MPI
  - **Required libraries**
    Caffe, OpenCV, Theano, Torch
- **The resource requirements for your project:**
  - Number of concurrent cpus: 128 cpus and **1 GPU**
  - Total cpu time: 50,000 hours
  - RAM per task: 128 GB
  - Total disk space: 1 TB
- **A few references or citations**

  - Zhou, Bolei, et al. "Learning deep features for scene recognition using places database." *Advances in neural information processing systems*. 2014.
  - Castelluccio, Marco, et al. "Land use classification in remote sensing images by convolutional neural networks." *arXiv preprint arXiv:1508.00092* (2015).
