The code implements a method for simultaneous source extraction and spike inference from large scale calcium imaging movies. It is based on a constrained non-negative matrix factorization algorithm.

The algorithm is presented in more detail in:
Pnevmatikakis, E.A., Soudry, D., Gao, Y., Machado, T., Merel, J., Pfau, D., Reardon, T., Mu, Y., Lacefield, C., Yang, W., Ahrens, M., Bruno, R., Jessell, T., Peterka, D.S., Yuste, R. and Paninski, L. (2016). Simultaneous denoising, deconvolution, and demixing of calcium imaging data. Neuron 89(2):285-299, **http://dx.doi.org/10.1016/j.neuron.2015.11.037**

The code can be downloaded at **https://github.com/epnev/ca_source_extraction**

A quick guide to run the code:
1. Download CVX library from **http://cvxr.com/cvx/download/**. This is required by the default options to run the algorithm. After unpacking CVX, open Matlab and run "cvx_setup.m" from inside the CVX directory to properly install. Add CVX to the Matlab path.
2. Open "demo_script.m" to setup the parameters, and run the algorithm.
3. Use "postProcessCNMF.m" to visualize and save the results.