

# Intro to PyCuda

## For Bayesian Stats and Gaussian Mixture Models

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# Motivating Problem

## Motivation

ABCs have found widespread use in many areas of computational biology and population genetics.

In the case of contamination models,

$$p(x) = (1 - \pi)p(x|\theta_{main}) + \pi p(x|\theta_c)$$

These are easily modelled using mixture models, but there are limited methods available for analysing contamination models with intractable likelihoods.