

# LOSING MOMENTUM IN CONTINUOUS-TIME STOCHASTIC OPTIMIZATION

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The training of deep neural networks and other modern machine learning models usually consists in solving non-convex optimisation problems that are high-dimensional and subject to large-scale data. Here, momentum-based stochastic optimisation algorithms have become especially popular in recent years. The stochasticity arises from data subsampling which reduces computational cost. Moreover, both, momentum and stochasticity are supposed to help the algorithm to overcome local minimisers and, hopefully, converge globally. Theoretically, this combination of stochasticity and momentum is badly understood.