Associate Professorship of Coding and Cryptography
TUM Department of Electrical and Computer Engineering
Technical University of Munich

TUM

Master's Thesis

Exploring while Exploiting Workers for Efficient Distributed Machine Learning

We consider the problem of running a distributed machine learning algorithm with the help of workers that have different performance/speed. To fully leverage the performance of the workers, we ideally want to assign a computation load proportional to the speed of each worker. However, the performance of the workers is not known a priori. To that end, we investigate the use of multi-arm bandits theory that allows learning the performance of the workers (exploring them) while assigining useful computations (exploiting them).

Advisors

Rawad Bitar

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