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Automating Team Formation Using Machine Learning

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Automated Team Formation Using Machine Learning

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PROBLEM

Collaborative teams are the primary vehicle for coordinating experts with diverse skills for a particular project in academia, manufacturing, freelancing, and the healthcare sector.

To automate forming optimum teams, current methods perform an exhaustive search over subgraphs of expert collaboration networks. They are not, however, scalable for large networks.

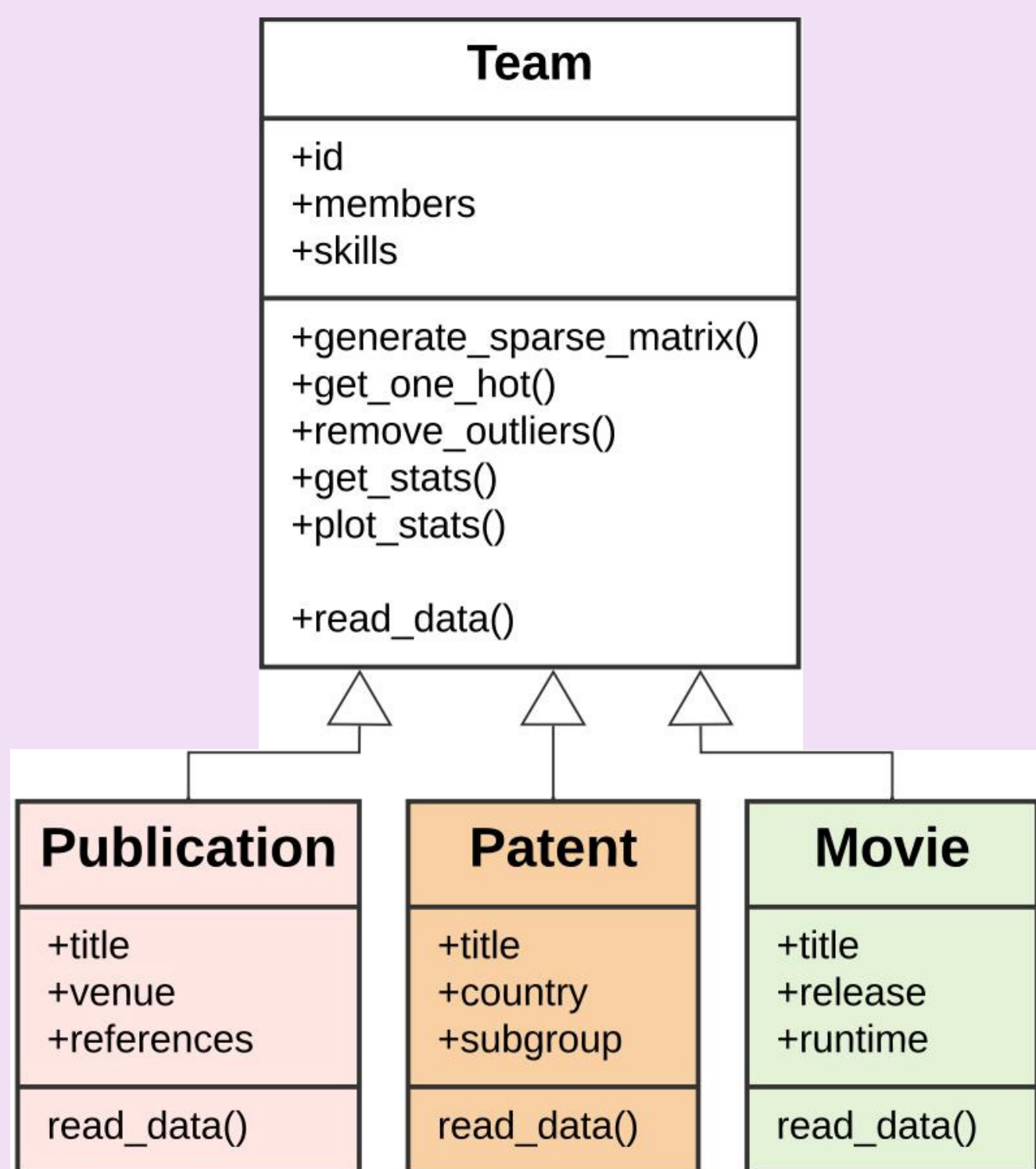
SOLUTION

In our research we propose machine learning models that learn relationships among experts and their social attributes through neural architectures. We aim at bringing efficiency while maintaining efficacy by employing inherently iterative and online learning procedures in neural architectures.

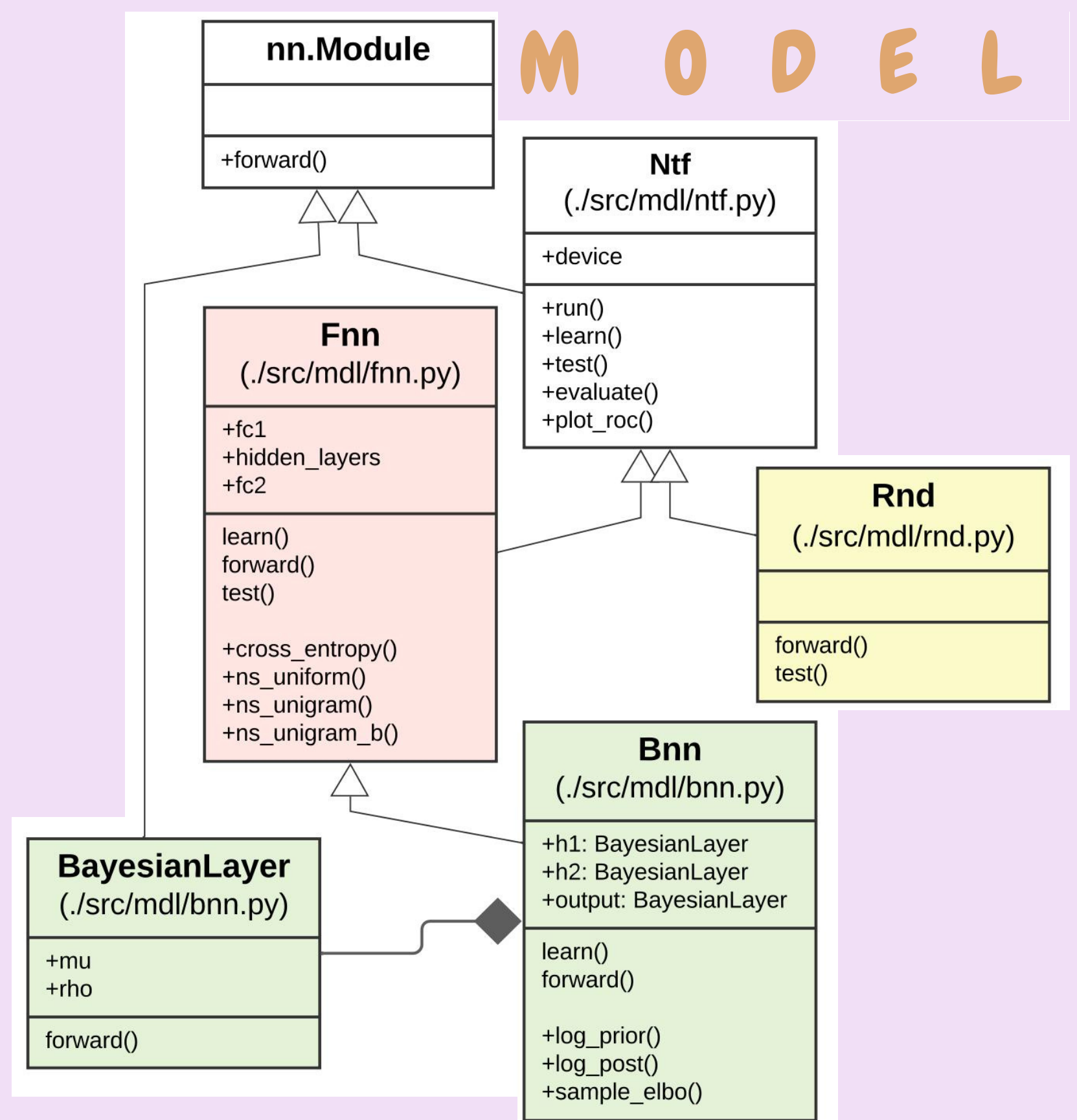
Our experiments on two large-scale benchmark datasets, computer science research publications (DBLP) and movies (IMDB), show that neural models that take unsuccessful teams into account are faster and more accurate in forming collaborative teams

HIERARCHY

DATASET

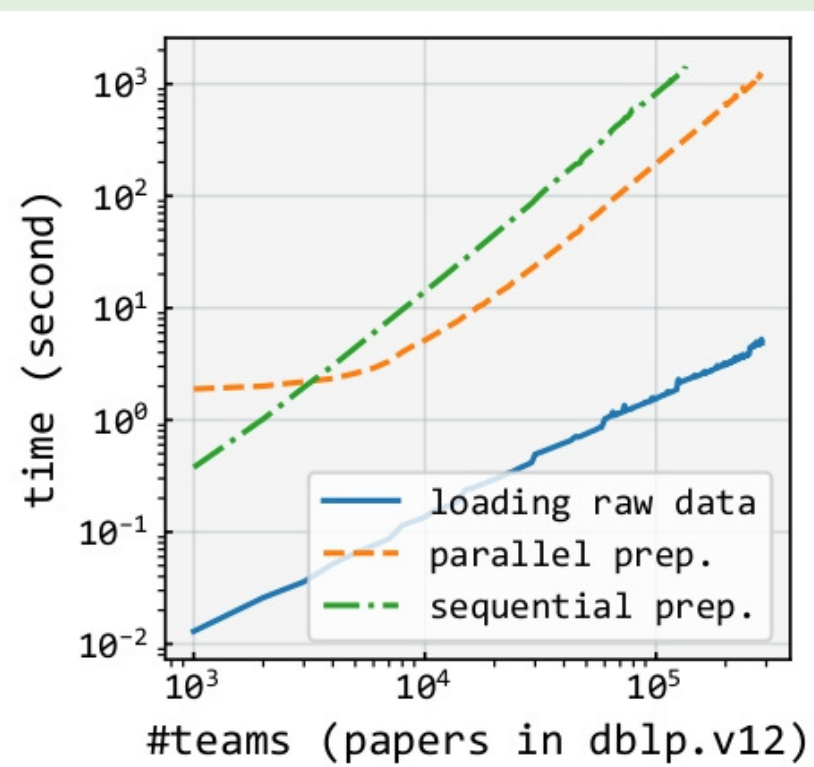


MODEL



EVALUATION

Data preprocessing speedup by 2.5x using parallel processing



Efficient calculation of the distribution of experts in teams using teams sparse matrix.

