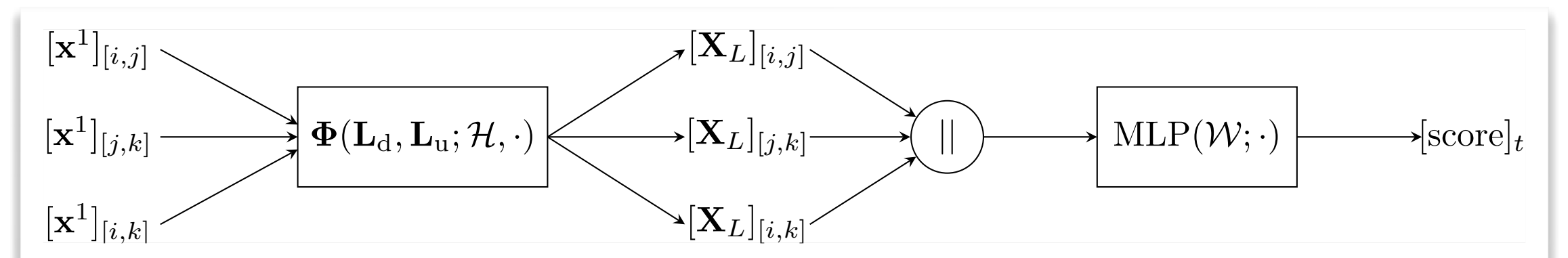


Simplex prediction

Generalization of link prediction

Table 2: Simplex prediction (AUC, \uparrow) .

| Methods | 2-simplex | 3-simplex |
|---------------------------------|--------------------------------|--------------------------------|
| Mean (Benson et al., 2018) | 62.8 \pm 2.7 | 63.6 \pm 1.6 |
| MLP | 68.5 \pm 1.6 | 69.0 \pm 2.2 |
| GNN (Defferrard et al., 2016) | 93.9 \pm 1.0 | 96.6 \pm 0.5 |
| SNN (Ebli et al., 2020) | 92.0 \pm 1.8 | 95.1 \pm 1.2 |
| PSNN (Roddenberry et al., 2021) | 95.6 \pm 1.3 | 98.1 \pm 0.5 |
| SCNN (Yang et al., 2022a) | 96.5 \pm 1.5 | 98.3 \pm 0.4 |
| Bunch (Bunch et al., 2020) | 98.3 \pm 0.5 | 98.5 \pm 0.5 |
| MPSN (Bodnar et al., 2021b) | 98.1 \pm 0.5 | 99.2 \pm 0.3 |
| SCCNN | 98.7\pm0.5 | 99.4\pm0.3 |



Statistical learning: Gaussian processes on SCs