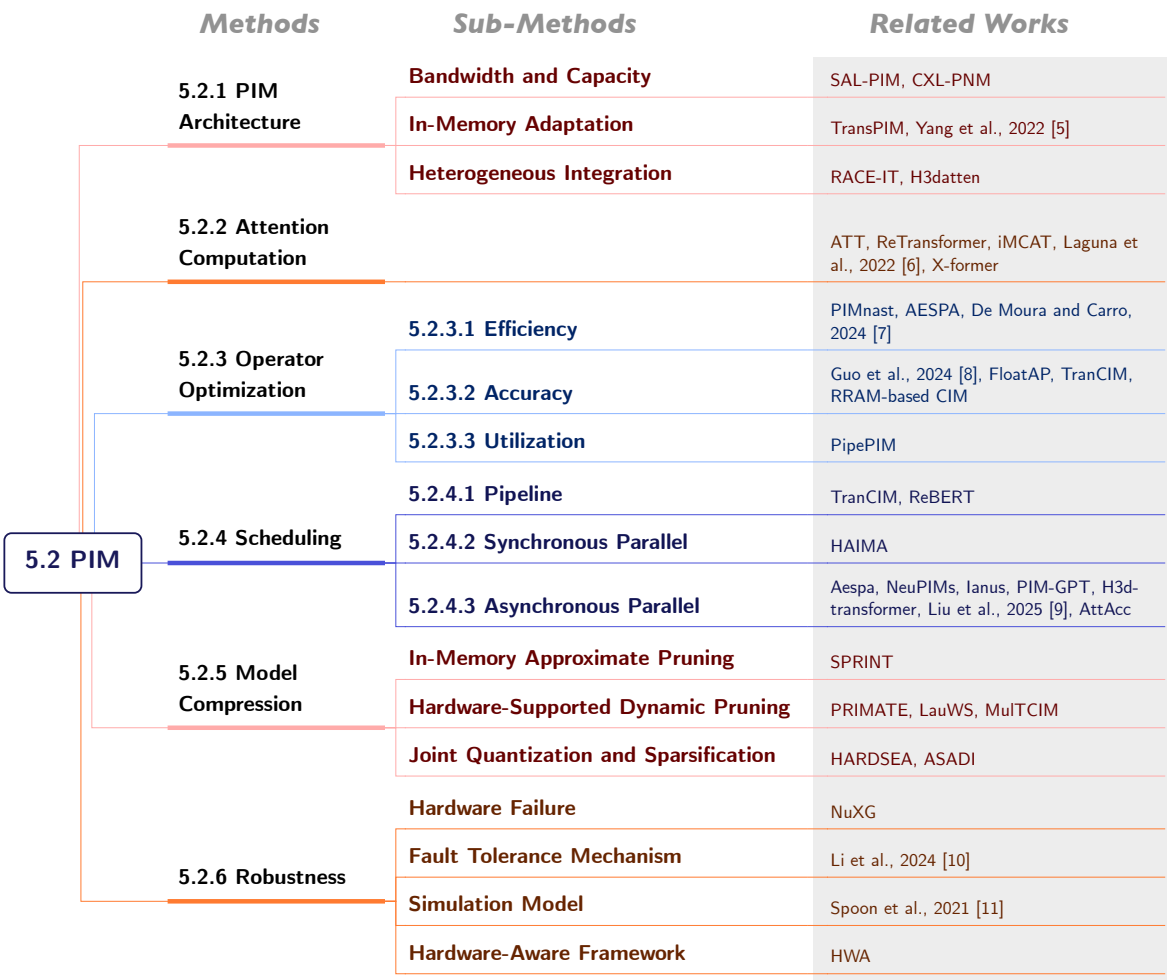
Methods
Sub-Methods
Related Works
5.2 PIM
5.2.1 PIM Architecture
Bandwidth and Capacity
SAL-PIM, CXL-PNM
In-Memory Adaptation
TransPIM, Yang et al., 2022 [5]
Heterogeneous Integration
RACE-IT, H3datten
5.2.2 Attention Computation
ATT, ReTransformer, iMCAT, Laguna et al., 2022 [6], X-former
5.2.3 Operator Optimization
5.2.3.1 Efficiency
PIMnast, AESPA, De Moura and Carro, 2024 [7]
5.2.3.2 Accuracy
Guo et al., 2024 [8], FloatAP, TranCIM, RRAM-based CIM
5.2.3.3 Utilization
PipePIM
5.2.4 Scheduling
5.2.4.1 Pipeline
TranCIM, ReBERT
5.2.4.2 Synchronous Parallel
HAIMA
5.2.4.3 Asynchronous Parallel
Aespa, NeuPIMs, Ianus, PIM-GPT, H3d-transformer, Liu et al., 2025 [9], AttAcc
5.2.5 Model Compression
In-Memory Approximate Pruning
SPRINT
Hardware-Supported Dynamic Pruning
PRIMATE, LauWS, MulTCIM
Joint Quantization and Sparsification
HARDSEA, ASADI
5.2.6 Robustness
Hardware Failure
NuXG
Fault Tolerance Mechanism
Li et al., 2024 [10]
Simulation Model
Spoon et al., 2021 [11]
Hardware-Aware Framework
HWA