

Mimic Problem-Solving Engine and Its Cognitive Education Services

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Emerging from decades of research in mathematical problem-solving, the Mimic Problem-Solving Engine (MPSE) pioneers a paradigm shift in cognitive education by simulating human-like reasoning through advanced computational architectures. Integrating various solving skills and hierarchical cognitive modeling, the MPSE dynamically mirrors learners' problem-solving trajectories via two core mechanisms: a state-transform network that emulates memory consolidation and content factorization algorithms that drive decision and reasoning. This dual-engine framework enables the system to construct thinking-aligned cognitive pathways, bridging AI with human metacognition. The MPSE's typical applications include automated marking, cognitive lecturing, and diagnostic systems, all powered by metacognitive feedback loops. Deployed as a hybrid cloud-edge platform, the MPSE supports scalable applications of K-12 adaptive learning. This breakthrough not only redefines digital learning ecosystems but also establishes a new benchmark for harmonizing computational precision with the human cognition..