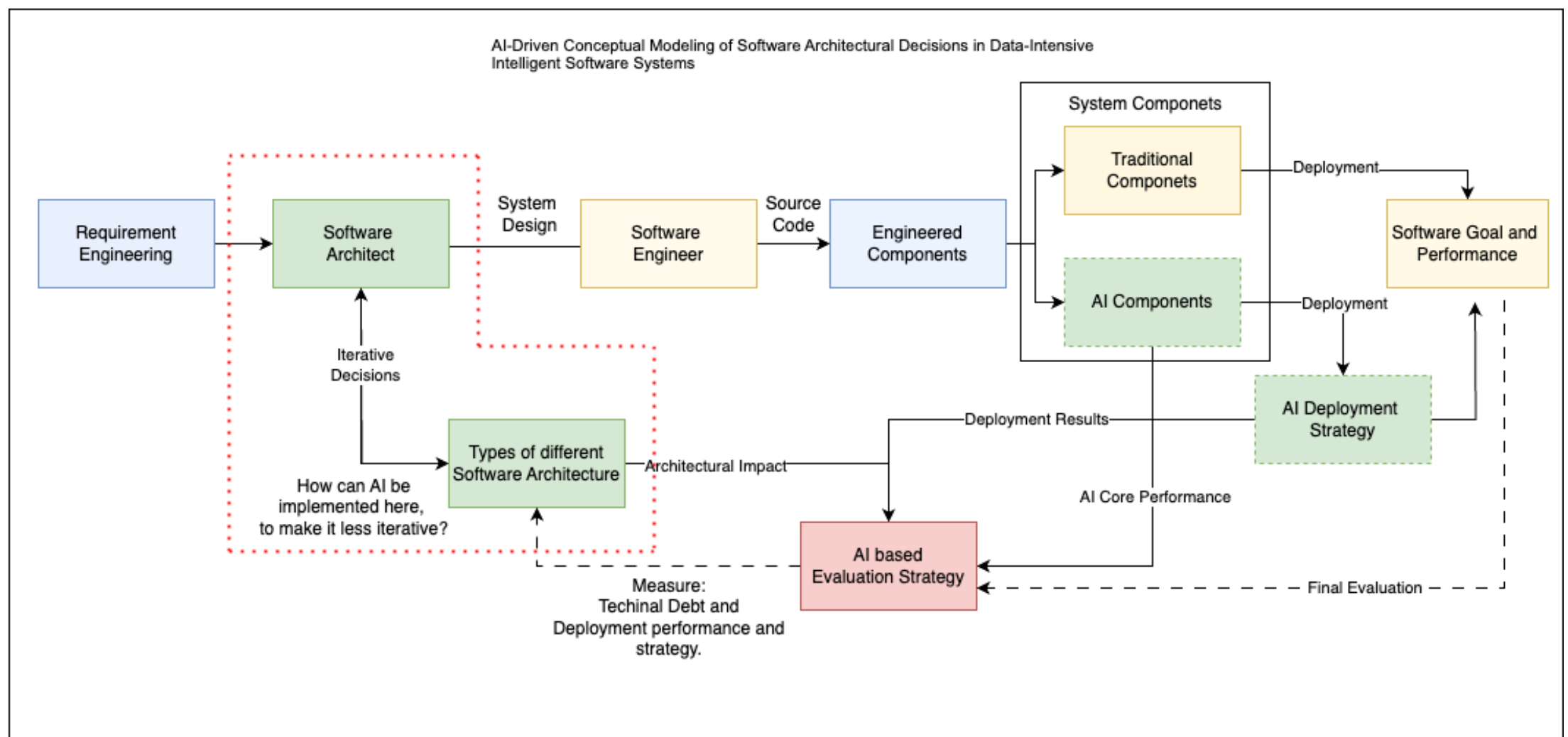


AI-Driven Conceptual Modeling of Software Architectural Decisions in Software Systems.

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Background and Aim

- AI and ML transform software engineering with intelligent, systems.
- Impact on design, management, and documentation of software architecture.
- Focus on machine learning, software architecture, and systems.

Main Research Fields

- Focus on software architecture, technical debt, system design, and scalability.
- AI models predict software changes, enhancing adaptability and resource optimization.

Research Questions

How does novel AI impact software architecture design?

1. Impact on data management, computational power, flexibility, and scalability.
2. System architecture adapts to evolving AI and ML demands.
3. Design decisions affect system efficiency, security, and overall performance.

Objectives and Scientific Impact

- Develop a set of best practices for incorporating AI into software architectural design and documentation processes.
- Leverage AI to assist in dynamic, data-driven decision-making during the architectural phase.
- Bridge the gap between traditional software engineering practices and AI-driven capabilities.
- Contribute to theoretical advancements in integrating AI with existing software engineering paradigms.
- Enhance the adaptability, precision, and efficiency of architectural design and documentation through AI integration.

Reach and Utilization

- Research benefits both academia and industry in software development applications.
- Focus on industry collaboration for real-world, data-driven technology solutions.
- Ensuring practical, scalable frameworks for AI-integrated software architecture.
- Bridging theory and practice for AI adoption in businesses.

