

# Artificial Intelligence in Software Development – A Study Case on Data Structures and Algorithms

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## Abstract

*Artificial Intelligence (AI) has significantly transformed numerous industries, with its disruptive potential continuing to unfold. Among its diverse applications, the realm of software development stands as a key arena poised for profound change. While the potential impact of AI on software development is widely acknowledged, empirical research in this area remains nascent. This study addresses this gap by undertaking an experimental investigation aimed at exploring the capacity of ChatGPT—a leading AI model—in problem-solving scenarios involving various algorithms and data structures. By shedding light on the efficacy of AI in addressing complex software development challenges, this research contributes to a deeper understanding of AI's role in shaping the future of software development.*

**Keywords:** software development, AI, ChatGPT, human-AI collaboration, software engineering, technology, innovation