

## **Artificial Intelligence-Powered Pediatric Dentistry: A Glimpse into the Future**

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### **ABSTRACT:**

The rapid digitalization of various aspects of life has significantly transformed dentistry, improving the quality of dental care through advanced technologies like artificial intelligence (AI). AI, which replicates human cognitive processes, has revolutionized dental practices by automating time-consuming tasks and offering precise diagnostics and treatment plans. Despite being in early development stages, AI in dentistry signifies a disruptive technology poised to redesign clinical care. Innovations such as CAD/CAM systems, intraoral imaging, and digital radiography illustrate AI's applications in caries diagnosis, implant design, etc. Historical milestones, from conceptualization of AI to advancements in machine learning and neural networks, have paved the way for sophisticated AI models used in various dental specialties, including pediatric dentistry. AI's potential extends to patient education and practice management, promising a future where dentistry is increasingly efficient, accurate, and patient-centered. This review highlights role of AI in pediatric dentistry with special mention of review of literature.

**KEY WORDS:** Artificial Intelligence, Dentistry, Deep Learning, Machine Learning, Neural Networks