**Interactive learning for automata theory and formal languages**

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The complexity of automata theory and formal languages often renders these subjects abstract and challenging for learners. Our project develops a platform that enhances understanding through interactive and visual tools, simplifying intricate concepts like deterministic finite automata (DFA) and nondeterministic finite automata (NFA). This tool is divided into three educational sections: Grammars, Automations, and Languages. Each section is designed to facilitate both theoretical engagement and practical application, providing an invaluable resource for students, educators, and self-learners alike. By integrating dynamic visualizations with hands-on exercises, our platform aims to make these fundamental computer science topics more accessible and engaging, ultimately improving educational outcomes.

Keywords: automata theory, educational tool, formal languages, interactive learning, visualization