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(31) Priority Document No	:NA	(72) Name of Inventor :
(32) Priority Date	:NA	1)Dr. PREM SAGAR SHARMA
(33) Name of priority country	:NA	2)NEETU KUMARI RAJPUT
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(57) Abstract :

The invention discloses an AI-powered framework (100) for automated software bug fix suggestions. The system comprises a code input interface (110), bug detection engine (120), AI model and knowledge base (130), suggestion generator (140), validation and testing module (150), feedback loop (160), and integration interface (170). By leveraging machine learning and historical bug-fix datasets, the framework provides context-aware recommendations, validates fixes automatically, and integrates them into CI/CD pipelines. The invention significantly reduces debugging effort, accelerates release cycles, and improves overall software reliability.

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