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(71) Name of Applicant :
100R.KAVITHA H
Address of Applicant: ASSOCIATE PROFESSOR, DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING, SIDAGANGA INSTITUTE OF TECHNOLOGY, BH ROAD, TUMAKURU - 572102, KARNATAKA, INDIA. -----
200R.SVANAJA
300R.RADHA SHARMA
400R.N.SURESH
500R.BETA VERMA
600R.EEMA VERMA
700R.NEHA JAIN
800R.P.L.KISHAN KUMAR REDDY
900R.P.KIRAN KUMAR REDDY
1000R.P.RAMKISHORE KUMAR REDDY
Name of Applicant : NA
Address of Applicant : NA
(72) Name of Inventor :
100R.KAVITHA H
Address of Applicant: ASSOCIATE PROFESSOR, DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING, SIDAGANGA INSTITUTE OF TECHNOLOGY, BH ROAD, TUMAKURU - 572102, KARNATAKA, INDIA. -----
200R.SVANAJA
Address of Applicant: ASSISTANT PROFESSOR, COMPUTER APPLICATIONS, QUEEN MARY'S COLLEGE(AUTONOMOUS), CHENNAI - 600004, TAMIL NADU, INDIA. -----
300R.RADHA SHARMA
Address of Applicant: LECTURER, DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING, GOVERNMENT POLYTECHNIC MAHASAMUND, CHHATTISGARH - 495448, INDIA. -----

400R.N.SURESH
Address of Applicant: HEAD AND PROFESSOR, DEPARTMENT OF CSE & IT, SRI VENKATESWARA COLLEGE OF ENGINEERING AND TECHNOLOGY, CHITTOOR - 517127, ANDHRA PRADESH, INDIA. -----
500R.BETA VERMA
Address of Applicant: ASSISTANT PROFESSOR, DEPARTMENT OF INFORMATION TECHNOLOGY, BHILAI INSTITUTE OF TECHNOLOGY DURG, CHHATTISGARH, INDIA. -----
600R.EEMA VERMA
Address of Applicant: ASSISTANT PROFESSOR, DEPARTMENT OF CSBS (COMPUTER SCIENCE AND BUSINESS SYSTEMS), SSPA, RAJARSHI SHAIK COLLEGE OF ENGINEERING, TATLAWADE, PUNE, MH-411033, MAHARASHTRA, INDIA. -----
700R.NEHA JAIN
Address of Applicant: ASSISTANT PROFESSOR, DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING, MARATHIWADA METRA MANDAL'S COLLEGE OF ENGINEERING, PUNE, MAHARASHTRA, INDIA. -----
800R.P.L.KISHAN KUMAR REDDY
Address of Applicant: PROFESSOR, DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING-CU, VASI REDDY VENKATADRI INSTITUTE OF TECHNOLOGY, NAMBUR(V), PUDA KAKANI (MD), GUNTUR - 522008, ANDHRA PRADESH, INDIA. -----
900R.P.KIRAN KUMAR REDDY
Address of Applicant: PROFESSOR, DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING-AIML, MLR INSTITUTE OF TECHNOLOGY, DUNDIGAL POLICE STATION ROAD, HYDERABAD - 501041, TELANGANA, INDIA. -----
1000R.P.RAMKISHORE KUMAR REDDY
Address of Applicant: PROFESSOR, DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING, MAHATMA GANDEH INSTITUTE OF TECHNOLOGY (AUTONOMOUS), KORAPUT (VILLAGE), GANDEP (MANDAL), CHHATANYA BIHARATHI (PO), RANGA REDDY - 509075, HYDERABAD, TELANGANA, INDIA. -----

(57) Abstract :

The invention presents an innovative system for automated bug detection and repair in software using deep learning. Utilizing advanced algorithms, the system is capable of real-time analysis of code to detect and identify bugs. Furthermore, it provides automated solutions by understanding the contextual and functional aspects of the code, offering or implementing corrections that align with the intended software functionality. Seamlessly integrating with existing development tools, the system emphasizes collaboration with human developers, providing guidance and learning from human input. Tailored to various industries, scalable across different project sizes, and designed with user-friendly interfaces, the invention represents a holistic solution to software development. Its forward-thinking approach encompasses not only technological advancements but also ethical considerations, global applicability, and adaptability to future trends, reshaping the landscape of software engineering and debugging.

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