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Patent Search

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Inventor

Name	Address	Country
Dr.C.S.Boopathi	Associate Professor, Department of EEE, SRM institute of Science and Technology, Kattankulathur, Chengalpattu, Tamil Nadu, India. Pin Code:603203	India
Mr. A. Koteswara Rao	Assistant Professor, Department of Computer Science and Engineering, Lakireddy Bali Reddy College of Engineering (A), Vijayawada, NTR District, Andhra Pradesh, India. Pin Code:521230	India
Mrs.Poonam Joshi	Assistant Professor, Department of CSE (Cyber Security), Thakur College of Engineering and Technology, Kandivali East Mumbai, Maharashtra, India. Pin Code:400101	India
Dr.V.R.Seshagiri Rao	Assistant Professor, Department of Electronics and Communication Engineering, Institute of Aeronautical Engineering, Dundigal, Hyderabad, Telangana, India. Pin Code:500043	India
Mr.Surendar Rama Sitaraman	Samsung Austin R&D Center (SARC), San Jose, California, USA. Po.Box: 95134	India
Mr.Bathula Prasanna Kumar	Associate Professor, Department of Computer Science and Engineering, KKR & KSR Institute of Technology and Sciences, Guntur, Andhra Pradesh, India. Pin Code:522017	India
Mrs.Srija Gundapaneni	Assistant Professor, Department of Computer Science and Engineering, KITS Akshar Institute of Technology and Science, Guntur, Andhra Pradesh, India. Pin Code:522019	India
Mr.Devadi Ganesh	Assistant Professor, Department of CSE, GMR Institute of Technology, Rajam, Vizianagaram District, Andhra Pradesh, India. Pin Code:532127	India
Mr.Chandu Jayaram	Assistant Professor, Department of Computer Science and Engineering, Vignan Lara Institute of Technology and Science, Vadlamudi, Guntur District, Andhra Pradesh, India. Pin Code:522213	India
Dr.Sivaram Rajeyyagari	Associate Professor, Department of Computer Science, College of Computing and Information Technology, Shaqra University, Shaqra, Saudi Arabia. Po.Box:11961	India

Applicant

Name	Address	Country
Dr.C.S.Boopathi	Associate Professor, Department of EEE, SRM institute of Science and Technology, Kattankulathur, Chengalpattu, Tamil Nadu, India. Pin Code:603203	India
Mr. A. Koteswara Rao	Assistant Professor, Department of Computer Science and Engineering, Lakireddy Bali Reddy College of Engineering (A), Vijayawada, NTR District, Andhra Pradesh, India. Pin Code:521230	India
Mrs.Poonam Joshi	Assistant Professor, Department of CSE (Cyber Security), Thakur College of Engineering and Technology, Kandivali East Mumbai, Maharashtra, India. Pin Code:400101	India
Dr.V.R.Seshagiri Rao	Assistant Professor, Department of Electronics and Communication Engineering, Institute of Aeronautical Engineering, Dundigal, Hyderabad, Telangana, India. Pin Code:500043	India
Mr.Surender Rama Sitaraman	Samsung Austin R&D Center (SARC), San Jose, California, USA. Po.Box: 95134	U.S.A.
Mr.Bathula Prasanna Kumar	Associate Professor, Department of Computer Science and Engineering, KKR & KSR Institute of Technology and Sciences, Guntur, Andhra Pradesh, India. Pin Code:522017	India
Mrs.Srija Gundapaneni	Assistant Professor, Department of Computer Science and Engineering, KITS Akshar Institute of Technology and Science, Guntur, Andhra Pradesh, India. Pin Code:522019	India
Mr.Devadi Ganesh	Assistant Professor, Department of CSE, GMR Institute of Technology, Rajam, Vizianagaram District, Andhra Pradesh, India. Pin Code:532127	India
Mr.Chandu Jayaram	Assistant Professor, Department of Computer Science and Engineering, Vignan Lara Institute of Technology and Science, Vadlamudi, Guntur District, Andhra Pradesh, India. Pin Code:522213	India
Dr.Sivaram Rajeyyagari	Associate Professor, Department of Computer Science, College of Computing and Information Technology, Shaqra University, Shaqra, Saudi Arabia. Po.Box:11961	Saudi Arabia

Abstract:

The present invention provides a cloud-based network security solution that integrates advanced threat intelligence and machine learning to enhance cybersecurity of distributed networks. The solution features a central cloud-based security platform that aggregates and processes threat data from diverse sources through a threat integration layer. Distributed network agents monitor and collect data from endpoints, which is analyzed by a machine learning engine to detect and predict potential threats. An automated incident response module executes predefined actions to mitigate threats, while a reporting and feedback mechanism offers insights for continuous improvement. This innovative approach delivers real-time, scalable protection against evolving cyber threats, leveraging the flexibility and scalability of cloud computing to maintain network security. Accompanied Drawing [FIGS. 1-2]

Complete Specification

Description:[001] The present invention relates to the field of network security, specifically focusing on cloud-based solutions that enhance the protection of distributed networks through advanced threat intelligence. As organizations increasingly adopt cloud computing, the need for robust security measures that can effectively safeguard data and infrastructure from sophisticated cyber threats has become paramount. This invention addresses the challenges associated with securing complex, multi-tiered networks by leveraging the scalability and flexibility of cloud computing combined with state-of-the-art threat intelligence and machine learning techniques.

[002] In particular, the invention provides a comprehensive security framework that operates within a cloud environment to continuously monitor, detect, and respond to potential threats across a distributed network. By integrating real-time threat intelligence from multiple sources, the system is capable of identifying both known and emerging threats, allowing for rapid and automated responses to mitigate potential damage. This innovative approach not only enhances the detection and prevention of cyberattacks but also offers a scalable solution that can be easily integrated with existing IT infrastructure, making it highly adaptable to the evolving needs of modern enterprises.

BACKGROUND OF THE INVENTION

[003] As organizations increasingly migrate to cloud-based environments and adopt distributed network architectures, they face mounting challenges in securing their digital assets against sophisticated cyber threats. The traditional approaches to network security, which often rely on static, perimeter-based defenses and isolated solutions, are proving inadequate in the face of modern threats that are more dynamic, complex, and widespread. This inadequacy is further compounded by the volume of data and the need for real-time analysis to effectively counteract emerging threats.

[004] Network security has historically been approached with a focus on endpoint protection and perimeter defenses, such as firewalls and intrusion detection systems.

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