



(<http://ipindia.nic.in/index.htm>)



(<http://ipindia.nic>)

### Patent Search

Invention Title	Privacy-Enhancing Technologies for Secure Data Sharing in Collaborative Research Environments
Publication Number	04/2025
Publication Date	24/01/2025
Publication Type	INA
Application Number	202541004235
Application Filing Date	18/01/2025
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	COMPUTER SCIENCE
Classification (IPC)	G06F0021620000, H04L0009000000, G06F0021600000, H04L0009080000, G16H0010600000

#### Inventor

Name	Address	Country
S.Veerabdraiah	Assistant Professor. Department of CSE, St. Peter's Engineering College, Opp to Forest Academy, Maisammaguda, Medchal, Dhulapally, Kompally, Hyderabad-500100, Telangana, India.	India
Dr. Naresh Madavarapu	Assistant Professor. Department of CSE(AI&ML), St. Peter's Engineering College, Opp to Forest Academy, Maisammaguda, Medchal, Dhulapally, Kompally, Hyderabad-500100, Telangana, India.	India
Mr.Jagadishwar Reddy Kisara	Assistant Professor, HoD of CSE &AIML, AAR Mahaveer Engineering College, Vyasapuri Post, Kesav Giri, Bandlaguda Jagir, Hyderabad-500005, Telangana, India.	India
Dr. P.Venkata Kishore	Associate Professor, CSM Department, St. Peter's Engineering College, Opp. Forest Academy, Kompally Road, Dullapally, Maisammaguda, Medchal, Hyderabad - 500100, Telangana, India.	India
Mr.Poola Mallikarjun	Assistant Professor, Department of Electrical and Electronics Engineering, Institute of Aeronautical Engineering, Telangana, India.	India
Mr.B.Ramana Reddy	HoD-CSE, CIC, DS Department of Computer Science and Engineering, Annamacharya Institute of Technology and Sciences, Tirupati, Andhra Pradesh, India.	India
Mrs.V.Lakshmi Narasamma	Assistant Professor, Department of CSE, Gokaraju Rangaraju Institute of Engineering and Technology (GRIET), Bachupally, Hyderabad-500090, Telangana, India.	India
Mr.Tatiraju.V. Ra Janikanth	Senior Manager,TVR Consulting Services Private Limited, 4-79/C/201,Splendour Apartment, Mettukaniguda, Gajularama Ram, Medchal Malkangiri District, Hyderabad-500055,Telegana, India.	India
Dr.Amjan Shaik	Professor of CSE and Dean R&D Cell, St. Peter's Engineering College, Opp. Forest Academy, Kompally Road, Dullapally, Maisammaguda, Medchal, Hyderabad - 500100, Telangana, India.	India
Dr.M.Chandra Naik	Professor of CSE, St. Peter's Engineering College, Opp. Forest Academy, Kompally Road, Dullapally, Maisammaguda, Medchal, Hyderabad - 500100, Telangana, India.	India

#### Applicant

Name	Address	Country
St. Peter's Engineering College	St. Peter's Engineering College, Opp to Forest Academy, Maisammaguda, Medchal, Dhulapally, Kompally, Hyderabad-500100, Telangana, India.	India
S.Veerabdraiah	Assistant Professor. Department of CSE, St. Peter's Engineering College, Opp to Forest Academy, Maisammaguda, Medchal, Dhulapally, Kompally, Hyderabad-500100, Telangana, India.	India
Dr. Naresh Madavarapu	Assistant Professor. Department of CSE(AI&ML), St. Peter's Engineering College, Opp to Forest Academy, Maisammaguda, Medchal, Dhulapally, Kompally, Hyderabad-500100, Telangana, India.	India
Mr.Jagadishwar Reddy Kisara	Assistant Professor, HoD of CSE &AIML, AAR Mahaveer Engineering College, Vyasapuri Post, Kesav Giri, Bandlaguda Jagir, Hyderabad-500005, Telangana, India.	India
Dr. P.Venkata Kishore	Associate Professor, CSM Department, St. Peter's Engineering College, Opp. Forest Academy, Kompally Road, Dullapally, Maisammaguda, Medchal, Hyderabad - 500100, Telangana, India.	India
Mr.Poola Mallikarjun	Assistant Professor, Department of Electrical and Electronics Engineering, Institute of Aeronautical Engineering, Telangana, India.	India
Mr.B.Ramana Reddy	HoD-CSE, CIC, DS Department of Computer Science and Engineering, Annamacharya Institute of Technology and Sciences, Tirupati, Andhra Pradesh, India.	India
Mrs.V.Lakshmi Narasamma	Assistant Professor, Department of CSE, Gokaraju Rangaraju Institute of Engineering and Technology (GRIET), Bachupally, Hyderabad-500090, Telangana, India.	India
Mr.Tatiraju.V. Ra Janikanth	Senior Manager,TVR Consulting Services Private Limited, 4-79/C/201,Splendour Apartment, Mettukaniguda, Gajularama Ram, Medchal Malkangiri District, Hyderabad-500055,Telegana, India.	India
Dr.Amjan Shaik	Professor of CSE and Dean R&D Cell, St. Peter's Engineering College, Opp. Forest Academy, Kompally Road, Dullapally, Maisammaguda, Medchal, Hyderabad - 500100, Telangana, India.	India
Dr.M.Chandra Naik	Professor of CSE, St. Peter's Engineering College, Opp. Forest Academy, Kompally Road, Dullapally, Maisammaguda, Medchal, Hyderabad - 500100, Telangana, India.	India

#### Abstract:

Privacy-enhancing technologies (PETs) are crucial for enabling secure data sharing in collaborative research environments where sensitive data is often exchanged between multiple parties. This invention introduces advanced PET solutions that allow researchers to collaborate while preserving the confidentiality, integrity, and availability. The proposed technologies leverage techniques such as encryption, anonymization, secure multi-party computation, and homomorphic encryption to ensure data remains private even in shared settings. These approaches protect sensitive information, such as personal data or proprietary research findings, from unauthorized access, prevent data breaches and ensuring compliance with privacy regulations. The proposed invention addresses the increasing demand for secure data-sharing mechanisms in research collaborations, particularly in fields such as healthcare, finance, and scientific discovery, where privacy concerns are paramount. By incorporating decentralized and federated learning models, this invention enhances the scalability and flexibility of data-sharing mechanisms, allowing data to be processed without ever being centralized or stored in a single location. The technology also aims to reduce the barriers to collaboration across borders and organizations by aligning with international privacy and data protection standards, thereby enabling secure cross-border research collaborations.

#### Complete Specification

##### Description:FIELD OF THE INVENTION

The field of invention pertains to privacy-enhancing technologies for secure data sharing, particularly in collaborative research environments. Collaborative research increasingly involves the exchange of large volumes of sensitive data across various sectors, such as healthcare, finance, and academic research. This exchange poses significant risks to the privacy and security of the data involved. Privacy-enhancing technologies (PETs) are designed to mitigate these risks by implementing advanced encryption, anonymization, and secure computation methods that ensure data remains confidential during exchange and processing. The technologies developed in this invention focus on creating a secure framework for researchers to collaborate while maintaining the privacy of sensitive data. This includes techniques such as end-to-end encryption, privacy-preserving machine learning, and federated learning models. These technologies are particularly relevant to sectors where data privacy and regulatory compliance are critical, including healthcare (with sensitive medical records and patient data), finance (with confidential financial data), and scientific research (where proprietary or classified information is shared). Furthermore, the invention explores the integration of privacy-preserving algorithms within decentralized systems to avoid centralized data storage and enhance security. As the demand for global collaboration grows, this field also addresses the need for solutions that comply with national and international privacy regulations, ensuring that data sharing can be conducted across borders without compromising privacy. In addition, the invention focuses on ensuring the robustness of these technologies against emerging threats, such as quantum computing.

Background of the proposed invention:

[View Application Status](#)



Terms & conditions (<https://ipindia.gov.in/Home/Termsconditions>) Privacy Policy (<https://ipindia.gov.in/Home/Privacypolicy>)

Copyright (<https://ipindia.gov.in/Home/copyright>) Hyperlinking Policy (<https://ipindia.gov.in/Home/hyperlinkingpolicy>)

Accessibility (<https://ipindia.gov.in/Home/accessibility>) Contact Us (<https://ipindia.gov.in/Home/contactus>) Help (<https://ipindia.gov.in/Home/help>)

Content Owned, updated and maintained by Intellectual Property India, All Rights Reserved.

Page last updated on: 26/06/2019