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Know-Center | Know-Center GmbH – Research Center for Data-Driven Business & Big Data Analytics

Programme: COMET – Competence Centers for Excellent Technologies

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SECURE SEARCH - SECURE RECOMMENDATIONS

LATEST RECOMMENDATION SYSTEMS SHOW IMMENSE POTENTIAL IN THE AREA OF DATA PROTECTION. PRIVACY IS PRESERVED WHEN SEARCHING FOR CONTENT, WHILE PROVIDERS CAN OFFER THEIR SERVICE WHILE MAINTAINING QUALITY AND PERFORMANCE.

Online services such as Amazon, Netflix, and Spotify use recommendation systems as the basis of their success. Recommendation systems collect data about users and make recommendations based on this data. They simplify navigation through the flood of information, but questions about data security and the protection of privacy also arise.

The recommendation systems developed by the Know Center are novel in that they preserve privacy and data protection in their operations. For this purpose, they work with completely encrypted data from start to finish.

Thus, the recommender systems have no direct insight into the data and "compute" with encrypted values. Nevertheless, targeted recommendations can be generated tailored to the specific user. In addition to encryption methods, minimization techniques are used to guarantee maximum performance.

Federal Ministry
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The systems can query 100 million data entries within 10 seconds and provide high-quality recommendations.

This opens the door to many real-world applications in the field of privacy-friendly recommendation systems.

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