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# E-NEWS LETTER

## **Master of Computer Applications**

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### Latest Update World

Integrating visualization with artificial intelligence for efficient data analysis

Visualization and artificial intelligence (AI) are well-applied approaches to data analysis. In complex data analysis scenarios, like epidemic traceability and city planning, humans need to understand large-scale data and make decisions, which require complementing the strengths of both visualization and AI. However, integrating these into data analysis processes has yet to be accomplished.



A research team led by Prof. Wei Chen has published new research on this topic in Frontiers of Computer Science.

The team defines three integration levels of visualization and AI. Visualization and AI are first used separately, which are data analysis approaches at level 0: independent process. As the technology matures, visualization and AI have been applied to assist each other. Related approaches are known as VIS4AI and AI4VIS, which correspond to level 1: one-way assistance.

One-way assistance cannot support feedback. Approaches at level 1 have no chance to assess or optimize the effect of the provided assistance. To further improve data analysis approaches, the next level requires dual-way assistance, which is level 2: deep integration.

VIS+AI aims at barrier-free communication between human intelligence and artificial intelligence in the scenario of visual analysis. The framework of VIS+AI can completely open up the channel between AI and visualization, which further links human intelligence. As shown on the left of the framework in the image above, the knowledge generation model is inherited from the previous level to inject human intelligence.



As shown on the right of the framework, the channel between AI and visualization consists of three iterative loops: an interaction loop, an execution loop, and an intelligence optimization loop.

Through the three loops, AI can adapt to dynamic data analysis processes, and therefore be deeply involved into the data analysis processes guided by humans.



### Venue: SRMSCET MCA Seminar Hall

On 8<sup>th</sup> June-2023, the MCA department organized an antakshari competition in the club activity hour. In which all the faculty members were present to motivate students.

This competition was held between two teams:

Team 1- Aditya Sarswat, Manthan Gupta, Ritik Kumar Saxena, Yashi, Prashant Rajpoot, Gyanendra, Mansi Prajapati, Vishal kashyap and Saurabh Tiwari

Team-2: Vishal Sharma, Pradeep Kumar, Sanskriti Gupta, Yashika, Pankaj Kumar, Rahul Kuniyal, Mohit Kumar, Nikhil Kumar, Abhishek Maheshwari

All the players were holding a good time and giving their best performance but Team-1won the match.







Zero Hour Activity (Chess) 22<sup>th</sup> June-2023

#### Venue: SRMSCET MCA Seminar Hall

On 22nd June-2023, Thursday during the club activity hour MCA 1st year students played chess with their classmates, it was a very interesting event and a great mind boosting exercise. Sports in-charge Mr. Shankar Pal also participated in the same and guided as about the rules and tricks of playing chess. Some student played against each other and some played against Mr. Shankar Pal sir. Students felt really great and enjoyed it very much. Mr. Shankar Pal was playing it very cleverly and smoothly calculating each and every move in advance, students learned from him that how to analyze the move before the competitor plays his next move.









### Placement of MCA Final Year Student (Batch-2021)

SRMSCET, Bareilly congratulates MCA Final year student Mr. Harshwardhan Singh, Mohd. Zama, Ms. Priyanka Gangwar, Ms. Ritigya and Ms. Nisha Khan for their placement with SRMS Software Cell. Their achievement is an inspiration to all our students and a testament to the quality of education SRMS provide.



### Faculty Arena

#### 5 Key New Features of MongoDB 5.0

### **1. Native Time Series**

With the new Native Time Series data can be easily stored, analyzed and edited data in a time series collection. The TimeSeries principle has been specially designed by MongoDB to respond to the growing demand from IoT and financial analysis. Developers can now leverage Time Series instead of linking multiple technologies together. Time series collections can be stored in the MongoDB database alongside regular collections, making it very easy to combine time series data with other business data.

#### 2. Versioned API and Live Resharding

As of MongoDB 5.0, the Versioned API makes applications future-proof. Upgrading the database can now be done separately from the application. Developers only need to update the applications when they add new functionality and not when the database is refreshed. Futureproofing doesn't stop with the Versioned API. MongoDB 5.0 also introduces Live Resharding that makes it easy to change the shard key of the collections on demand - without database downtime - as application data grows and evolves.

### 3. Next-Gen Privacy & Security

MongoDB's unique Client-Side Field Level Encryption has been expanded. An ability to add field encryption capabilities on the client side has been added. X509 audit filters and certificate rotation can now be reconfigured without stopping MongoDB. In addition, support has been added for configuring TLS 1.3.

#### 4. MongoDB Charts and Atlas Data Lake

Atlas Data Lake, a self-service application within MongoDB Atlas, helps customers perform queries, modify and move data between AWS S3 and MongoDB clusters. (The data is then not in the dattbase, but in files within AWS S3. In the update, the MongoDB Charts tool is integrated with Atlas Data Lake. This should make it easier to visualize the data, without having to adjust it first. Atlas Search also has the new Function Scoring functionality has been given more possibilities, such as adding mathematical formulas to make the search functionality even more precise.

### 5. Realm

With Realm you have simple, powerful local persistence on mobile phones, tablets and IoT devices like Raspberry Pi. The Realm SDKs provide a set of APIs that allow developers to directly store and use native objects, reducing the amount of code required, as no ORMs are required or cryptic database syntax is learned. In addition, MongoDB Realm Sync was made generally available earlier this year, making it easy to sync data between local storage on your devices and MongoDB Atlas on the backend. Don't worry about network code or conflict resolution, it's all taken care of. Furthermore, MongoDB Realm, a serverless variant of the MongoDB database for mobile applications, has received a minor upgrade. This version now also supports the Unity game engine for saving game data and synchronizing this data on multiple devices.

> Vijay Kumar Dubey Assistant Professor



में सिर्फ दो टेलिकॉम कंपनियां जियो और एयरटेल ही अपने ग्राहकों को 5जी सर्विस उपलब्ध करा रही हैं. कुल मिलाकर देश में अभी सभी टेलिकॉम ग्राहकों तक 5जी इंटरनेट की सुविधा पहुंचाने का काम चल रहा है. वहीं, पीएम नरेंद्र मोदी ने 6G नेटवर्क सेवा को शुरू करने की समयसीमा भी तय कर दी है.

पीएम मोदी कह चुके हैं कि 6G नेटवर्क सुविधा शुरू करने के लिए एक टास्क फोर्स बनाई जा चुकी है, जो लगातार काम कर रही है. उनके मुताबिक, 2030 तक देश में 6G नेटवर्क सेवा शुरू कर दी जाएगी.



दुनिया के कई देश 6G इंटरनेट सेवा शुरू करने की दिशा में पहले ही काम शुरू कर चुके हैं. दक्षिण कोरिया की सरकार ने तो ये भी घोषणा कर दी है कि देश में साल 2028 तक ग्राहकों को 6जी नेटवर्क सेवा मिलनी शुरू हो जाएगी. कोरिया की सरकार ने लोकल कंपनियों को 6जी नेटवर्क में इस्तेमाल होने वाले सामान की मैन्युफक्चरिंग करने को भी कह दिया है. कोरिया तय समय पर 6जी सेवा शुरू कर ऐसा करने वाला दुनिया का पहला देश बनना चाहता है. कोरियाई सरकार इस परियोजना पर 3,900 करोड़ रुपये से ज्यादा खर्च कर रही है. साउथ कोरिया के विज्ञान मंत्री लिम हेई के मुताबिक, 6जी नेटवर्क की रफ्तार देश में उपलब्ध मौजूदा नेटवर्क के मुकाबले 50 गुना ज्यादा होगी.

> Aditya Sarswat Student of MCA, II-Semester