



VASIREDDY VENKATADRI INSTITUTE OF TECHNOLOGY
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NBA Accredited: B. Tech Programs– CE | CSE | ECE | EEE | ME | IT
DEPARTMENT OF INFORMATION TECHNOLOGY

IT PRAGNA – Department Magazine

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ARANGO DB

Arango DB is a native multi-model database. *Multi-model* because Arango DB provides the capabilities of a graph database, a document database, a key-value store in one C++ core and freely combine all supported data models and access patterns in a single query

Arango DB as a Document Database

Foundational to the native multi-model in Arango DB is the flexibility of JSON. Users can store arbitrary complex data and even leverage nested properties in Arango DB. All data in Arango DB is stored as JSON documents and similarly structured documents that can be pooled into collections—similar to a table in relational databases.

Example:

```
{
  "key": "foo"
  "id": "bar"
  "geo location": lat/log
  "text": ".."
  "nested objects": [...]
}
```

Arango DB as a Graph Database

The graph capabilities of Arango DB are very similar to a property graph database. For each document, a `unique_id` attribute is stored automatically. To build a relation (i.e., an edge) between two documents (i.e., vertices), both `_id` attributes are stored in a special edge document known as `_from` and `_to` attributes, forming a directed connection between two arbitrary vertices. Edges are then stored in a special edge collection.

Arango DB enables efficient and scalable graph query performance by using a special hash index on `_from` and `_to` attributes (i.e., an edge index). Vertices and edges are both full JSON documents and can hold arbitrary data.

By this approach, Arango DB is one of the few graph databases capable of horizontal scaling.

ARANGO DB FEATURES :

Arango DB provides a broad spectrum of graph database features: graph traversals, shortest path, pattern matching and distributed graph processing via Pregel. Users can also take the result of a JOIN operation, geospatial query, text search or any other access pattern as a starting point for further graph analysis and vice versa – all in one query, if needed.

A graph can be visualized and manipulated directly within the Arango DB Web UI. The Web UI provides many configurations for displaying edges and vertices.



Search and Ranking Engine Features

With the current version of Arango Search, users can already perform a broad spectrum of queries:

- Relevance-based matching;
- Phrase and prefix matching;
- Complex searches with Boolean operators; and
- Relevance tuning on runtime.

Arango Search also provides language analyzers for twelve common languages including English, Chinese, German, Dutch, Spanish and French. Search queries can be executed against data sharded to an Arango DB cluster.

Arango DB as a Key/Value Store

Arango DB also provides the characteristics of a modern, distributed key/value store. By just storing the document key and a value within a JSON document, some typical key/value operations like CRUD or range queries can be performed efficiently.

To support all the other data models natively, Arango DB has to store more attributes compared to a “classical” key/value database. Due to this additional overhead, we don’t recommend Arango DB for key/value use cases which require hyper-scale. A second difference from classical key/value stores is that Arango DB is not optimized for blob storage (i.e., binary large objects like image files). We recommend



Article by:
Mr. B. Kalyan Chakravarthy,
Asst.Professor

Augmented and virtual reality are reality technologies that strengthen or substitute real environments with simulated ones.

History of AR and VR

The first device which can be associated with virtual reality is the stereoscope. A stereoscope is an optical system in which the left eye and the right eye view a variety of images. There are two pictures, or stereo cards, which show the same scene, but from a different angle, simulating the difference between how the right and the left eye would perceive it. Thus, the scene seems three-dimensional.

Understanding the AR and VR

These days we spend a lot of time looking at computers, smart phones and televisions these become a big part of our lives that is how we get most of our news, using social media, watching movies and more. Virtual reality and augmented reality are two technologies that allow us to use screens with new interactive features.

Virtual Reality or VR uses a headset with a built-in screen that displays a virtual environment for you to explore these headsets which uses a technology called head tracking which allows you to look around the environment by simply moving your head.

Augmented reality or AR is a bit different instead of carrying you into a virtual world, it takes digital images and superimposes them in the real world around you. This is done by means of a transparent visor or a smartphone. Thus, with virtual reality, you get completely immersed in the virtual world and with augmented reality, you can explore the world only with moving objects around you.

AR vs VR

Although both technologies use simulated reality, augmented reality and virtual reality rely on different underlying components. The user nearly always wears a headset covering the eyes and earphones to completely replace the real world with the virtual world.

The concept of virtual reality is to eliminate the real world as much as possible and isolate the user. While virtual reality has applications that are built around entertainment, particularly gaming.

Augmented reality, meanwhile, incorporates the simulated world into the real world. In most applications the user relies on a smartphone or tablet screen to accomplish this, aiming the phone's camera at a point of interest, and generating a live-streaming video of that scene on the screen. The screen is then superimposed with useful information, which includes implementations like repair instructions, navigation information or diagnostic data.



However, AR can also be used in entertainment applications. The Pokémon Go mobile game, where players try to capture virtual creatures while moving through the real world, is a classic example.

CONCLUSION

Virtual reality and augmented reality are inverse reflections of each other, concerning what each technology wants to achieve.



Article by:
R. Vidhyamini
18BQ1A12H2



Guest Lecture on Data Science Using R Programming on 29-02-2020



VVIT in general and Department of IT in specific has a strong urge for catering to the students' latest technological advancements via the professional societies and chapters.

Webinar on Information Security and Real time scenario on 28-05-2020



Webinar on Microsoft & Google-certification based Online Summer Internship Training program on 26.06.2020



Travel Grant to Mrs. B. Lakshmi Praveena , Asst Professor, Dept. of IT



Ms. B. Lakshmi Praveena, Assistant Professor, in Department of Information Technology, Selected for student travel grant as research scholar of SPMVV, Tirupathi, for International Conference on Data Management (CODS-COMAD 2020), Organized by ACM, COMAD, ISB, IIITH at Hyderabad from 5th-7th January, 2020

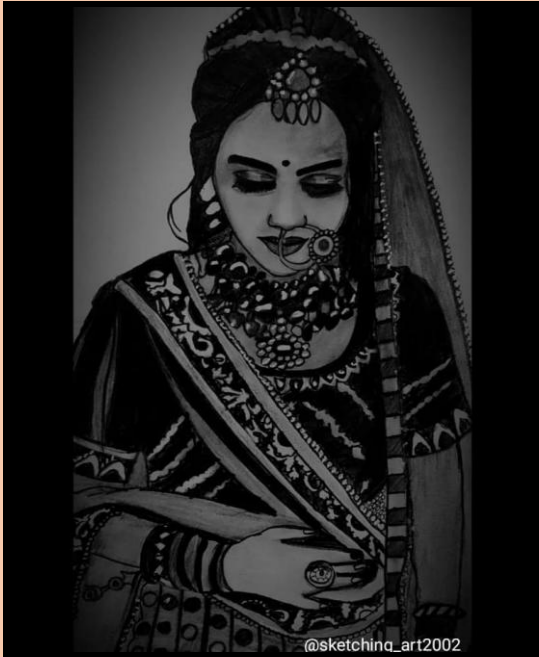
"Know and Knock Machine Learning, Data Science and Cloud Computing ", Six Phrase - My slate - Erudite Forum - Discussion on 07-06-2020



ACM India Industry Webinar on "Text Analytics for Health Care" on 20-06-2020



STUDENT CORNER



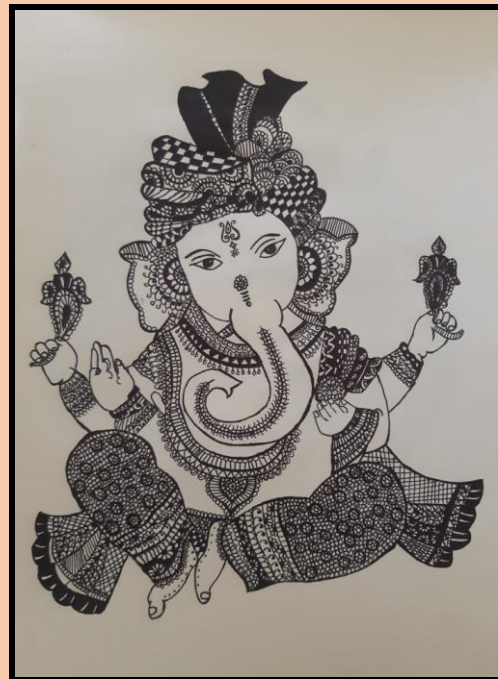
K. Manasa
18BQ1A1286



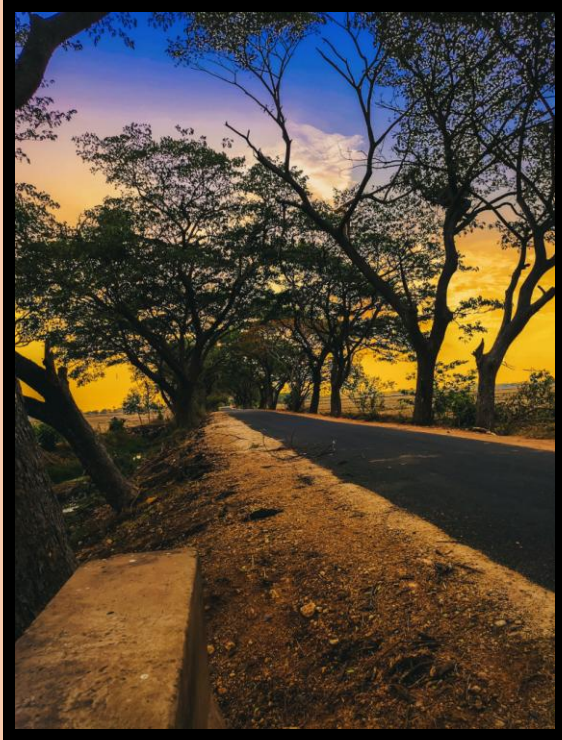
K. Lahari
18BQ1A1277



A. Bhumika
18BQ1A1209



Y. Mounika
18BQ1A12H5



Pavan Kumar
18BQ1A1243



M.Surendranath
18BQ1A1297



T. Raja sekhar
18BQ1A12F4



Rohini Sai
18BQ1A12G3



A.V Rupa
16BQ1A1203

I thank the institute and the faculty for all the efforts put in by them, along with the perseverance and right moves have paid off finally. All my batch mates are doing well in their respective jobs which reflect the quality of the students the institute has produced.

VVIT was more than college to me. A place where i gained knowledge, best needed for the survival in the outer world and confidence. Right from day 1 I joined in the college energy and enthusiasm is what i experienced, be it Faculty or Students. An amazing institution which teaches you the self-discipline, confidence. The college has good atmosphere to study and play. The best part of the VVIT is SAC. This SAC taught me many more things. Throughout the Academics sessions, I was challenged to discover capabilities that I never knew I had. Along with the Academics, I also participated in many cultural events. I will continue to build upon what I have learned here, which includes continuing to conduct research projects on my own... The opportunities, connections, friendships, and knowledge I acquired from VVIT are invaluable."

I am currently working as a software developer in WIPRO. To achieve my goals and dreams VVIT has helped me a lot in my career. I got a lot of love and support from my teachers & friends and it made my 4 years, memorable for me.

I feel very fortunate to have been a part of VVIT, where I spent crucial four years of my life under the guidance of teachers who helped me shape up my future.

VVIT really helped in my personality development. The Facilities that VVIT provided are really appreciable. Library here provides not only with books, but also the magazines about the tech. I spent most of my leisure times in library. VVIT also provides labs in which my problem-solving skills were developed. Throughout the Academics sessions, I was challenged to discover capabilities that I never knew I had

VVIT conducts clubs every Friday where I explored my skills such as animation, dancing. These were the clubs that, I was part of. There are many events that VVIT organizes such as movie promotions, Fest and much more.

The faculty here are highly qualified and exactly know how to teach students. Their teaching methodology is so good which made me to study more and learn more. Apart from Studies VVIT also have NCC and NSS.

I was a NSS volunteer. Whenever there are any events in college students used to manage the event and make sure to be disciplined. I used to go out for camps from which I learnt most of my lessons on how to face the world.



K. Alekhya
16BQ1A1222



Department Vision:

To produce IT professionals who can develop globally competitive and socially useful information technology enabled solutions and products that offer cost effective solutions, for organizations, in particular and society in general, through their innovative ideas, and to create a knowledge pool through research in this field.

Department Mission:

1. Producing information technology professionals for the Global IT industry.
2. Developing student centric and qualitative teaching-learning practices.
3. Establishing infrastructure that endows cutting edge technology requirements of the industry.
4. To extend service to the public, the state and the nation at large by building quality engineers.
5. To carve disciplined and socially, technologically better responsible citizens.
6. To make the students pursuing information technology the technological ambassadors of VVIT in whatever part of the world they find themselves in their future careers.

Program Educational Objectives (PEO'S):

PEO-1: Solid Foundation and Core Competence

To provide the graduates with concrete base in Information Technology, to pursue higher studies and to succeed in industry / technical profession with global competence by imparting acute technical skills like designing, modelling, analyzing and problem-solving on top of solid foundation in mathematical, scientific, computing and engineering fundamentals.

PEO-2: Employability & Research Spur

To train the graduates for a higher degree of employability in both public and private sector industries at national and international level by imparting ability to Re-learn and innovate in ever-changing global economic and technological environments and to contribute effectively in research and development.

PEO-3: Professional Skills and Societal Contribution

To inculcate the graduates to have basic interpersonal skills, effective communication skills to teamwork/ lead in multidisciplinary approach, under diverse professional environments by handling critical situations through lifelong learning with an ethical attitude (administrative acumen) and an ability to relate engineering issues to broader social context.

PEO-4: Real World Competency & Innovation

To enable students with good scientific and engineering breadth and technology skills so as to comprehend, analyze, design, and create novel products and solutions for the real-life problems to emerge as researchers, experts, educators & entrepreneurs.