

Emerging Technologies 2020

(2-day course)

AI (4 hours)

- The rise of Compute Power
- Hardware and Software platforms
- Programming Languages
- AI on the Cloud and Standalone
- ML / DL (Machine Learning and Deep Learning)
- Supervised and Unsupervised Learning (algorithms)
- Chatbots, Recommendation Engines and Face Recognition
- Data Science and Analytics
- Vendors
- Applications (use cases) of AI
- Future
- Demo (Decision Tree Classifiers)

Big Data (2 hours)

- Introduction, Implementation, Use Cases, Applications
- Apache, Cloudera, Hortonworks, MapR
- PaaS vs IaaS offerings
- Current Trends
- Skills needed for Big Data Hadoop Professional
- What IT companies are doing?
- NoSQL Databases
- Distributed File Systems (Hadoop)
- Data Lakes
- ETL vs ELT

IoT (2 hours)

- Definition and Scope
- Technologies that enable IoT
- Sensors, Actuators etc. (Sensing devices)
- Propagators (Connectivity – 4G/5G, Zigbee, NFC etc.)
- Integrators (People and Processes)
- How big is the IoT market

- Applications of IoT (includes compound applications)
- The 4 stages of IoT maturity
- Functional view of IoT technologies
- Future Trends
- Demo (NodeRed and Iotify)

BlockChain (2 hours)

- Blockchain concepts
- How did it all start
- Bitcoin and other cryptos
- Problems with existing monetary system
- Public Key Cryptography (Asymmetric Encryption)
- Advantages of using Blockchain
- Blockchain features
- Blockchain applications
- Current market and future trends
- Demo (Ether)

AR/VR/MR (2 hours)

- History and Now
- Growing range of AR/VR devices
- Types of Display
- Key characteristics of VR
- Rise of consumer HMD's
- Spatial Augmented Reality
- AR v/s VR
- Key enabling technologies
- Evolution of Interaction
- Natural gesture and multimodal input
- MR – The future of immersive experience

RPA (2 hours)

- Evolution of Process Automation
- RPA & BPM (Two sides of the same coin)
- RPA in Industry 4.0
- Digital Business Transformation
- Traditional v/s Automated way of doing things
- Importance of data and AI in RPA

- Vendors – UiPath / BluePrism / AutomationAnywhere
- How humans and robots work together
- Attended and Unattended RPA
- Programming mundane and repetitive tasks
- Demo (UiPath)

CyberSecurity (2 hours)

- Understanding the threat landscape
- NIST Cybersecurity Framework
- Exploiting and Protecting Assets
- Network Security
- Writing Secure Code (Dev-Sec-Ops)
- Cybersecurity Certifications
- Viruses, worms, trojans, zero day exploits and other threats
- Cybersecurity and IoT
- Cybersecurity and Mobility
- Software testing (Penetration and Security)
- Vendors
- Ten points to remember

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