



Faculty Development Program



VIT[®]
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

Discussion Points

Title : Generative Artificial Intelligence and Quantum Computing

Date : 2024-08-26 - 2024-08-30

Time : 10:00 - 17:30

Venue : TT 432

- Artificial Intelligence in Neuro Healthcare Application
- Quantum Algorithms
- Quantum Basics and Gates
- Distributed machine learning
- High dimensional data analysis
- Advanced Machine learning Techniques
- Participants can be able to get exposed to the latest advancements in Quantum computing techniques
- Attain knowledge on Quantum Gates and Circuits, Quantum Algorithms. and scalability in quantum computing, Artificial Intelligence in Neuro Healthcare Application
- This FDP provides practical foundation level training that enables immediate and effective participation in Quantum computing and other analytics projects. It includes an introduction to data analytics and the machine learning techniques to address business challenges that leverage real time application
- The FDP provides grounding in basic and advanced analytic methods and an introduction to data analytics technology and tools, including PyTorch, R and Python
- Acquire knowledge on General Ensemble learning Methods, Support Vector Machines, Boosting and Bagging in Data Analytics

**Resource Person 1 - Details****Name :** Dr J V Bibal Benifa**Designation :** Associate Dean, Artificial Intelligence and Data Science**University/ Company :** Indian Institute of Information Technology
Kottayam, Kottayam**Address :** India, 686635.**Resource Person 2 - Details****Name :** Dr Natesan Damodaran**Designation :** Senior Consultant Neurosurgeon, Epilepsy surgery and
Functional Neurosurgery**University/ Company :** Epilepsy surgery and Functional Neurosurgery
Gleneagles Healthcity Chennai, Chennai**Address :** India, 600100.**Resource Person 3 - Details****Name :** Mr Bharanidharan A**Designation :** Software Engineer , IQZ Systems**University/ Company :** IQZ Systems Coimbatore, Coimbatore**Address :** India, 641022.**Resource Person 4 - Details****Name :** Saravanaguru Ra.k**Designation :** Professor Grade 1, School of Computer Science and
Engineering**University/ Company :** VIT, Vellore**Address :** India, 632014.**Resource Person 5 - Details****Name :** Kumar K**Designation :** Professor Grade 1, Institute for Industry and International
Programme**University/ Company :** VIT, Vellore**Address :** India, 632014.**Resource Person 6 - Details****Name :** Dr Rakesh Kumar Sidharthan**Designation :** Technical Manager, GenAI CoE AI Force**University/ Company :** HCL Technologies Pvt Ltd Chennai , Chennai**Address :** India, 600001.**Resource Person 7 - Details****Name :** Dr Ajay D M**Designation :** Senior Research Engineer , GenAI CoE AI Force**University/ Company :** HCL Technologies Pvt Ltd Chennai , Chennai**Address :** India, 600001.**Resource Person 8 - Details****Name :** Dr Rahul Raman**Designation :** Assistant Professor, Design and Manufacturing**University/ Company :** Indian Institute of Information Technology,
Kancheepuram**Address :** India, 600127.

**Resource Person 8 - Details****Name :** Dr Rahul Raman**Designation :** Assistant Professor, Design and Manufacturing**University/ Company :** Indian Institute of Information Technology, Kancheepuram**Address :** India, 600127.**Resource Person 9 - Details****Name :** Dr P Shanmugavadivu**Designation :** Professor , Dept of Computer Science and Applications**University/ Company :** The Gandhigram Rural Institute , Dindigul**Address :** India, 624302.**Resource Person 10 - Details****Name :** Jagalingam P**Designation :** Assistant Professor Sr. Grade 2, School of Computer Science and Engineering**University/ Company :** VIT, Vellore**Address :** India, 632014.

Resource Person's Profile :

1. Profile of Dr J V Bibal Benifa

She is Working as a Associate Dean in the Artificial Intelligence and Data Science, Indian Institute of Information Technology Kottayam. She having more than 14 years of teaching and research experience. Established a private cloud infrastructure at Noorul Islam Center for Higher Education. Developed a Prediction System for identifying Rheumatology based on Siddha Medical Concepts. She published more than 15 International Journals and conferences.

2. Profile of Dr Natesan Damodaran

Dr Natesan Damodaran is Senior Consultant Neurosurgeon, Epilepsy surgery and Functional Neurosurgery, Gleneagles Healthcity, Chennai
Compassionate human being aspiring to use his skills as a neurosurgeon to bring holistic wellness to his patients. He has been trained in premier neurosurgery centres (Christian Medical College Vellore and AIIMS, New Delhi) and currently pursuing fellowship in Epilepsy surgery and Functional neurosurgery in Amrita Institute of Medical Sciences, Kochi.

3. Profile of Mr Bharanidharan A

He is working as Software Engineer at IQZ Systems, Coimbatore. He having more than 14 years of experience in Research, Industry and Teaching. He completed the following certification: Microsoft Certified, Azure Administrator Associate, BLOCKCHAIN FOUNDATION, PROGRAM, HashiCorp Certified: Terraform Associate

4. Profile of Saravanaguru Ra.k

He is Senior Professor in Department of Information Security, School of Computer Science and Engineering. He having more than 20 years of Teaching and Research Experience.

5. Profile of Kumar K

He is Professor in Department of Software Systems, School of Computer Science and Engineering. He having more than 18 years of Teaching and Research Experience.

6. Profile of Dr Rakesh Kumar Sidharthan

Dr. Rakesh Kumar Sidharthan is working in HCL Technologies Pvt Ltd, Chennai. He has experience in managing a team of engineers to engineer innovative solutions to customer problems. Experience in robotics, computer vision and artificial intelligence. Periodically conducted webinars, invited talks, and guest lectures to provoke thoughts on innovations to young engineers. Experience in technical writing and research publications. .

7. Profile of Dr Ajay D M

Dr. Ajay D M is working as a Senior Research Engineer at HCLTech with a profound passion for cybersecurity research across diverse domains including Generative AI, Healthcare, Automobile, and Industrial sectors. He was an Ambassador for the German Informatics Society at the Youth Internet Governance Forum (YIGF), Poland after his fellowship at the Asia Pacific School on Internet Governance (APSIG). .

8. Profile of Dr Rahul Raman

Rahul Raman is currently working as Senior Assistant Professor in the department of Computer Science and Engineering at IIITDM. His area of interest includes Artificial Intelligence, Computer Vision, Visual Surveillance Machine Learning, Biometrics, Aesthetics and Natural Language Processing. He is currently working on different research projects funded by various government agencies. His research publications comprise international journals, conferences, book chapters, records, and patents. .

9. Profile of Dr P Shanmugavadivu

Dr P Shanmugavadivu has more than 33 years of academic experience. Her research area includes Medical Image Analysis, Parallel Computing, Healthcare Data Analytics, Content-Based Image Retrieval, Artificial Intelligence and Natural Language Processing. She has more than 100 publications in prestigious journals and conferences. She has authored 3 books and 5 edited volumes. She serves as editorial member in various journals.

10. Profile of Jagalingam P

Jagalingam Pushparaj is working as assistant professor senior grade in the School of Computer Science and Engineering, Vellore Institute of Technology, Vellore. He received his Bachelor of Engineering Degree in Computer Science and Engineering from Anna University, India. His masters was in Remote Sensing and GIS from Anna University, India. He studied his full time Doctoral programme at National Institute of Technology Karnataka (NITK). .

The Goal of the FDP is to provide a forum for exchanging ideas and information on current research studies, challenges, system developments and practical experiments in this emerging field of Quantum Computing and Artificial Intelligence Techniques. This FDP includes topics related to Artificial Intelligence in Neuro Healthcare Application, Quantum Algorithms, Quantum Operator and measurements, distributed machine learning, High Dimensional Data Analysis, Advanced Techniques in supervised learning, Gradient Boosting and Voting Ensemble Method. This FDP will ignite the minds to do their research work in the field of Quantum Computing, Machine learning and its applications. The participants will learn and also simulate various Machine learning algorithms, Evolutionary Computing Techniques on Quantum Computing with Python and Other source tools. The application of data analytics and Artificial Intelligence is used in Business Intelligence that helps people make decisions based on multiple sources of insight: data, people and the environment. The FDP aims at providing a forum for members of the research and academy community. It enables the participants to understand the recent technologies in Quantum computing, Data Science, Artificial Intelligence and its applications. The sessions include both the discussion of Quantum computing and Artificial Intelligence techniques in real time applications and the challenges to apply practically. The session also include hands on training on domain like Quantum Algorithms, Optimization, Predictive Modeling and Machine learning Techniques using Open source languages Python, R and Julia

Python , R and Julia

**Coordinator's: Prof. KANAGARAJ R 18889 - Assistant Professor Sr. Grade 1 - SCOPE
Prof. MADIAJAGAN M 15261 - Professor Grade 1 - SCOPE**