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Event Report: IEEE EMBS ECE Department Webinar on "Application of AI in Medical Imaging"

On 1st October 2024, the Department of Electronics and Communication Engineering (ECE) conducted a virtual session from 6:00pm – 7:00pm as part of the IEEE EMBS chapter celebrating the occasion of IEEE Day. The session was led by Mr. Deepak Shekhar, Director - Software Engineering, MR R&D, Philips, with around 30 participants.

The webinar revolved around AI and its applications in Medical Imaging. Mr. Shekhar began by discussing the basic definitions of Artificial Intelligence, Machine Learning and Deep Learning explaining the historic evolution of AI. He further explained about different types of AI algorithms.

He gave insights into detailed medical imaging workflow and typical steps in image acquisition. He discussed about application of AI in various scanning techniques such as MRI, CT scan, ultrasound and so on. He also discussed about the needs of customers and how AI platforms are helping meet those needs.

He explained the role of AI in medical imaging and scanning techniques by taking an example of 3D camera based patient positioning used for MRI imaging, CT scan. He also explained about scan planning using AI in recent days.

He further gave insights on how different medical conditions are detected, especially tumors using AI technology as a part of advanced scanning techniques and how it supports doctors in taking clinical decisions. He also emphasized on evolving AI platforms developed by some companies like Philips, Siemens and so on for medical imaging tasks. He talked about how the platforms should be ethical and accurate and also how the developers should be answerable to government in case of any adverse effects.

Deepak Shekhar (Presenting)

Contents

- AI - Terminologies
- Medical Imaging Workflow
- Customer Needs
- Applications of AI
 - Patient Preparation
 - Scan Planning
 - Image Reconstruction
 - Clinical Decision Support
 - Protocol Recommendation
 - Patient Triaging
 - Predictive Service
- Challenges

6:14 PM | tiy-dkib-yim

Deepak Shekhar, Leena Chandrashe..., Sanjana S, Sakshi Hukkeri, madan dharmaraju, 19 others

Deepak Shekhar (Presenting)

Types of AI Algorithms

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graph TD; A[ML/DL Algorithms] --> B[Supervised Learning]; A --> C[Unsupervised Learning]; A --> D[Reinforcement Learning]
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18:17 | tiy-dkib-yim

vishwas M

People

- Pavan K R
- Prajwal M
- Pranath Satish
Meeting host
- Priya Sankpal
- Priyanka Gaonkar
- Raghov A
- Raghoothama Rao
- Rakshitha Bhajentri
- Ramsha Fathima
- Reshma bo

Deepak Shekhar (Presenting)

AI in Medical Imaging

Application of AI in Radiology Workflow

Deepak Shekhar TC

6:14 PM | tly-dkib-yim

96°F Partly sunny

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ENG IN 18:14 01-10-2024

Deepak Shekhar (Presenting)

google.com - To exit full screen, press Esc

Scan Planning

Automated slice planning

100%

vishwas M

18:44 | tly-dkib-yim

People

Search for people

IN MEETING

Contributors 24

- vishwas M (You)
- Akshatha R Shandilya
- Deepak Shekhar
- Deepak Shekhar Presentation
- Dr. Rashmi R Deshpande
- Leena Chandrashekar
- Medini Bhat