

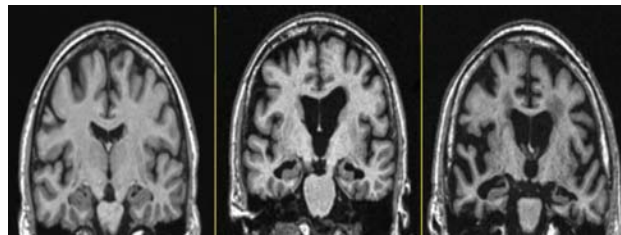
ARTIFICIAL INTELLIGENCE IN MEDICAL IMAGING

Annotate | Train | Deploy

Trending

Medical imaging industry is witnessing a new wave of AI-fueled technology innovation, primarily due to advancements in computing infrastructure and deep learning architectures, delivering reliable performances comparable to human experts.

Detection of subtle biomarkers at an early stage and extending the reach of healthcare providers have been few of the key use cases in medical imaging to facilitate clinical decision support and increase workflow efficiency.



↓
Healthy Control

↓
MCI

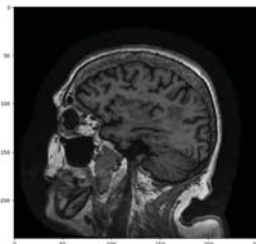
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AD

Opportunities & Challenges

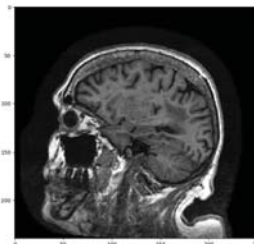
With the increasing reliance of medical imaging professionals on AI enabled diagnostic tools, there is vast business potential for the early adopters in this space.

However, the critical challenge for the OEMs is the lack of annotated data to train deep learning algorithms. Additionally, there is a lack of clinical validation to determine the efficacy of the algorithms in the field

The shortage of existing and successful use cases is also a market barrier for the OEMs.



Input



Output

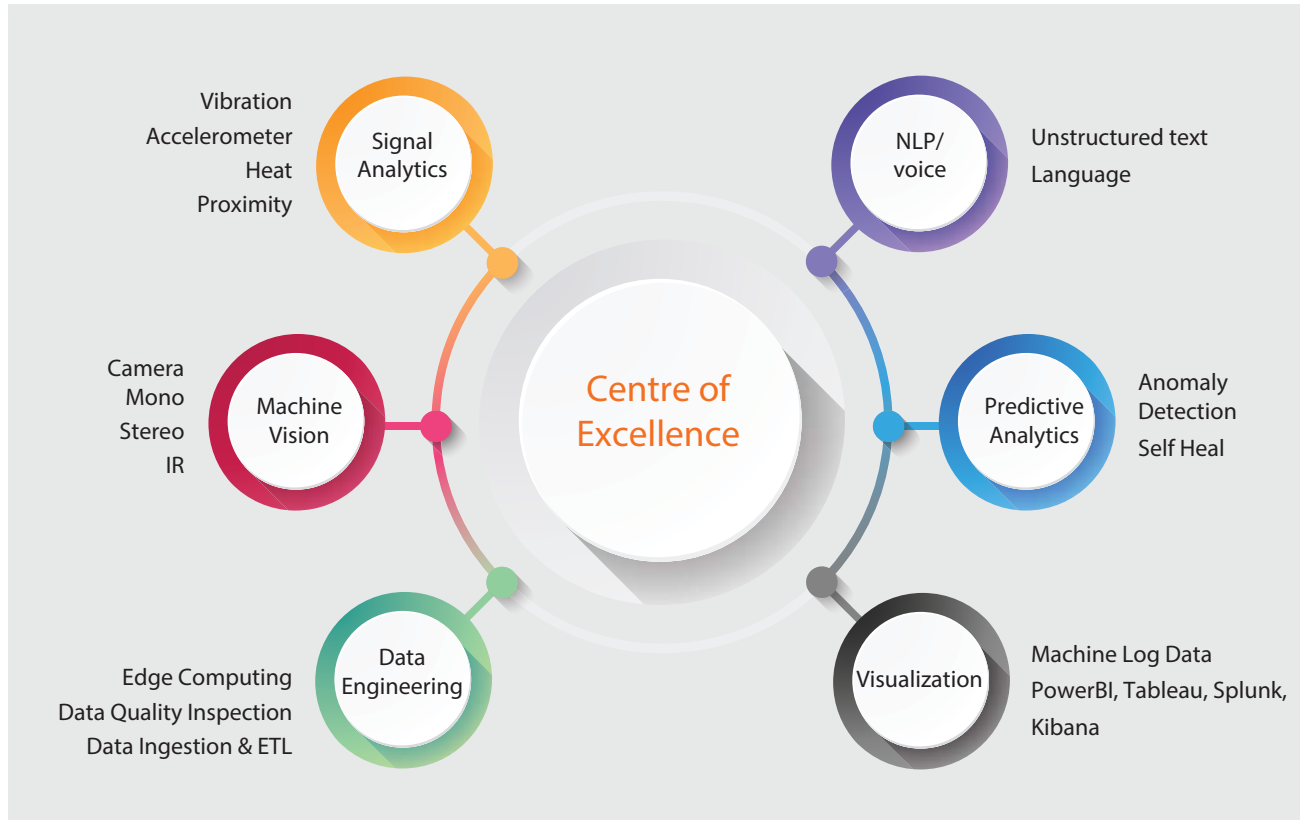


Benefits Sought by the OEMs

- Decreased workload for medical imaging professionals with readily available image analytics and predictive analytics platform
- Improved overall productivity using AI enabled reporting tools
- High-quality images for examination due to the enhanced image acquisition process
- Significant reduction in episodes of errors and discrepancies in radiology practice

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Tata Elxsi as your AI Partner



Differentiators

- Pre-trained ML models for rapid prototyping
- Process-driven development cycles helping deliver in a more predictable and time-bound manner
- Established AI/ ML Centre of Excellence with multi-disciplinary AI/ML team
- Ready-to-deploy solutions for image analytics

Cases

Advanced image enhancement and decision support system for the better outcome

- Enhanced the MRI images using deep-learning driven pixel enhancement techniques
- Developed customized auto-encoder based feature extractor module for 3D brain MRI images
- Exceeded state-of-the-art performance in classification of brain MRI images

Select work samples

- Automatic protocol selection and system optimization
- Smart hanging protocols, image registration, and image fusion
- Feature detection, segmentation, and quantification
- Automatic population of radiology reports with quantitative results

PoCs for Rapid Innovation

Enhance Diagnostic Applications

Build & Train AI Models

Predictive Analytics