3 Days (Full-day Sessions: 6–7 hours/day)

A 3 Day AI workshop in Healthcare

Workshop Objectives

By the end of this workshop, participants will:

- Understand how AI is being applied across healthcare domains.
- Gain hands-on exposure to healthcare datasets and predictive modeling.
- Learn about ethical, legal, and data governance issues in medical AI.
- Design prototypes or frameworks for AI-driven healthcare solutions.

Day 1 – Foundations of AI in Healthcare

Session 1: Introduction to AI and Healthcare Landscape

- Overview of AI, ML, and Deep Learning in medicine.
- Historical evolution and future trends in healthcare AI.
- Types of healthcare data: EHR, imaging, genomics, and IoT health data.

Session 2: Data Management and Preprocessing

- Data cleaning and integration in medical records.
- Handling missing and unstructured data (clinical notes, scans).
- Introduction to data privacy (HIPAA, GDPR, NDHM guidelines).

Session 3: Case Studies Discussion

- Predictive analytics in patient readmission.
- AI-powered diagnostics (radiology, pathology, ophthalmology).
- Q&A and brainstorming.

Hands-on Exercise

- Basic data exploration using a sample EHR dataset in Python or Excel.

Day 2 – Machine Learning & Deep Learning in Healthcare

Session 1: Predictive Modeling

- Building ML models for disease prediction (e.g., diabetes, heart disease).
- Feature engineering from patient data.
- Model evaluation metrics for healthcare (precision, recall, ROC).

Session 2: Deep Learning for Medical Imaging

- CNNs in radiology and dermatology.
- Image segmentation for tumor detection and organ classification.
- AI in ophthalmology (e.g., diabetic retinopathy detection).

Session 3: Natural Language Processing (NLP) in Healthcare

- Clinical text mining from EHR notes.
- Named entity recognition for medical terms.
- Chatbots and virtual health assistants.

Hands-on Exercise

- Build a disease prediction model using a public dataset (e.g., UCI Heart Disease).
- Demo of image classification using pre-trained models (e.g., ResNet).

Day 3 – Implementation, Ethics & Innovation

Session 1: AI Systems Deployment in Healthcare

- Integrating AI models into clinical workflows.
- Cloud-based healthcare analytics platforms (AWS, Azure, Google Health).
- Interoperability and FHIR standards.

Session 2: Ethical and Regulatory Considerations

- Data privacy, consent, and bias in AI models.
- Explainable AI and accountability in clinical decision-making.
- Regulatory frameworks (FDA, EU MDR, India NDHM).

Session 3: Innovation Lab / Capstone Project

- Group activity: Design an AI solution for a real-world healthcare challenge (examples: early sepsis detection, hospital resource optimization, patient triage).
- Presentation & feedback from mentors.

Closing Session

- Certificate distribution
- Discussion on career paths and research opportunities in AI for healthcare

Tools and Platforms

- Python (Pandas, Scikit-learn, TensorFlow/PyTorch)
- Google Colab / Jupyter Notebooks
- Open healthcare datasets (MIMIC, UCI, Kaggle Health datasets)
- Visualization tools (Tableau, Power BI, or Matplotlib)

Target Audience

- Doctors, nurses, and healthcare administrators
- Biomedical engineers and data scientists
- Students and researchers in AI or healthcare fields
- Healthcare IT professionals

Instructor: Mr Suresh Tripathi is a founder of Geosun Pty Ltd an Australian company registered in year 2000 to provide AI corporate training, data center solutions and data pipeline end-to-end cloud platform. He has nearly 25+ years of work experience in digital data analytics integrated with AI and tech platforms. His education qualifications include master degree in Statistics from India, master degree in Geostatistics from Australia and

master degree in Geoscience from Australia. He completed his AI certificate courses from Stanford Business School from California and High Impact Leadership from Cambridge University, UK. He has worked in Australia and US focusing his career on data strategy, tech platforms, and developing in-house training. He has worked with range of industries in Australia and US that include Deloitte, Flybuys, Ambulance Victoria, CFA (Emergencies Services), Avexa, Covance, Avance Clinical (Pharmaceuticals), Intelligen, Commonwealth Bank, Hackett Group (US), Health and Safety Sphera Solutions(US), Vic Government (Environment, water and energy), Waste Management (US), Outfront Media (US), Adani Mining (Australia) and Fura Gems Industries (Dubai).

Fee: Rs 50,000 per participant plus GST payable to GeosunAI Tech Cloud Pvt Ltd. RTGS/Cheque/ PhonePe via below link form.

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