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A detailed **3-day workshop plan for "AI with KNIME"**, tailored for beginners to intermediate users who want practical AI and data analytics skills using KNIME:

Target Audience:

- Data analysts and scientists
- Business analysts
- Students and professionals interested in AI
- Anyone curious about automating analytics with KNIME

Day 1: Introduction & Data Preparation

Objective: Familiarize participants with KNIME, data preprocessing, and basic analytics.

Topics & Activities:

1. **Welcome & Workshop Overview** (30 min)
   o Introduction to AI and KNIME
   o Workshop objectives and structure
2. **KNIME Installation & Setup** (45 min)
   o Installing KNIME Analytics Platform
   o Overview of KNIME interface
3. **Data Handling in KNIME** (1.5 hr)
   o Reading and writing datasets (CSV, Excel, databases)
   o Data cleaning and preprocessing nodes
   o Handling missing values, duplicates, and data types
4. **Exploratory Data Analysis (EDA)** (1.5 hr)
   o Descriptive statistics
   o Data visualization (bar charts, scatter plots, histograms)
   o Using KNIME reporting nodes
5. **Hands-on Exercise:**
   o Load a sample dataset (e.g., Titanic dataset)
   o Perform cleaning, transformation, and basic EDA
6. **Q&A & Wrap-up** (30 min)

Day 2: Machine Learning with KNIME

Objective: Learn to build and evaluate machine learning models using KNIME nodes.

Topics & Activities:

1. **Introduction to Machine Learning Concepts** (45 min)
   o Supervised vs. unsupervised learning
   o Key evaluation metrics
2. **Supervised Learning in KNIME** (2 hr)
   o Decision trees, Random Forest, and Logistic Regression
   o Splitting data into training and test sets
   o Model evaluation (accuracy, confusion matrix)
3. **Unsupervised Learning** (1 hr)
   o Clustering (k-Means)
   o Dimensionality reduction (PCA)
4. **Feature Engineering** (1 hr)
   o Creating new features
   o Scaling and normalization
5. **Hands-on Exercise:**
   o Predicting customer churn / survival using a sample dataset
   o Build, train, and evaluate multiple ML models

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6. **Q&A & Wrap-up** (30 min)

Day 3: Advanced AI, Automation & Deployment

Objective: Apply AI workflows, automation, and integration with KNIME.

Topics & Activities:

1. **Text Analytics & NLP** (1 hr)
   - Text preprocessing (tokenization, stemming, stopwords)
   - Sentiment analysis workflow
2. **Deep Learning Integration** (1 hr)
   - Using Keras/TensorFlow nodes
   - Simple neural network example
3. **Automating Workflows** (1 hr)
   - Loops, conditional nodes
   - Workflow templates and reusable components
4. **Model Deployment & Reporting** (1 hr)
   - Deploying models via KNIME Server (overview)
   - Automated reports and dashboards
5. **Capstone Project / Hackathon** (2 hr)
   - Build an end-to-end AI workflow on a real dataset
   - Data cleaning → model building → evaluation → reporting
6. **Workshop Wrap-up & Certificate** (30 min)
   - Key takeaways
   - Q&A
   - Next steps in AI with KNIME

Materials Provided:

- Sample datasets
- KNIME workflow templates
- PDF guide with step-by-step exercises

Tools Needed:

- Laptop with KNIME installed
- Internet connection for external datasets

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.

Bank: Punjab National Bank

Account Name: NB, GeosunAI Tech Cloud Pvt Ltd

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