AI Foundations Exam Content

Exam content changes June 1. Changes are indicated below. New content is shown in red and deletions are shown in ~~red strike-through~~.

Describe the fundamentals of Artificial Intelligence (AI)

- What is AI
- AI Risks
- AI regulations
- Ethical Inquiry
- SAS Data Ethics Practice

Describe the generative AI landscape

- Differences between AI, Machine Learning, Deep Learning, and generative AI
- Technologies that enable AI
- Types of Machine Learning (Discriminative, Reinforcement, Generative)
- Large Language Models (LLMs)
- SAS and Generative AI
- Risks and Rewards
- Generative AI Systems

Explain the principles of responsible innovation

- The concepts of responsible innovation, digital ethics, data ethics, and ethical AI

Explain trustworthy AI

- The governance approach of Oversight, Platform, Controls, and Culture
- The analytics life cycle (Manage Data, Develop Models, Deploy Insights)
- The SAS comprehensive approach to trustworthy AI
- The data chain of custody (Acquire, store, pre-process, model build, model deploy, share/sell, dispose)

Explain the AI risk of unintentional bias

- Unwanted bias in the context of AI and decisions systems
- Types of human bias (recency, affinity, anchoring)
- Misconceptions about how to reduce bias in AI models
- Basics of ethics
- Source of bias within the analytics lifecycle
- Predictors, responses, mediators, confounders

Identify SAS technology that enables a trustworthy analytics lifecycle

- SAS technology for responsible data management (data quality, automated data exploration, information privacy, data masking, data suppression, data lineage, synthetic data generation, semantic type remediation)
- SAS technology for responsible model development (model interpretability, fairness & bias assessment, natural language insights, bias mitigation)
- SAS technology for responsible model deployment (model governance, model monitoring, decision accountability, model cards)

Describe AI language models

- Transformers and Large Language Models (LLMs)
- Convolutional Neural Networks (CNNs) and Recurrent Neural Networks (RNNs)
- Attention-based models and transformers
- GPT models
- BERT models
- ~~Retrieval Augmented Generation (RAG)~~

Describe the generation of synthetic data using AI techniques

- Overcoming data scarcity
- Synthetic Minority Oversampling Technique (SMOTE)
- ~~Generative Adversarial Networks (GANs)~~
- Bayesian networks
- SAS Data Maker capabilities

- SAS Data Maker Process (plan, prepare, produce)
- Using SAS Data Maker

Explain Agentic AI

- Differences between LLM and AI agents
- Relevance of AI agents
- Evolution of conversational AI
- Agentic AI methodology
- Agentic AI ecosystem
- Components of AI Agents (LLMs, Memory, Tools, Guardrails)
- Human-AI balance
- AI agents vs agentic AI
- SAS' approach on generative AI and agentic AI
- SAS for Agentic AI (Decisioning, human/AI balance, Governance)
- Enterprise-grade AI agents
- Agentic AI use cases

Describe SAS Viya Copilots

- SAS Viya Copilots functionality
- SAS Viya Copilots uses
- LLM application stack
- SAS Viya Copilot for Model Pipeline Development
- SAS Viya Copilot for Code Assistance
- SAS Viya Copilot for Augmented Analytics