

DAY 1

7:30 AM - 8:30 AM

Breakfast and Registration

8:30 AM - 9:00 AM

Welcome

- Course goals and its motivation
- Overview of course

9:00 AM - 10:30 AM

Session 1: AI Overview - What is AI and How Does ML Work?

- Artificial intelligence vs. machine learning
- Machine learning and deep learning
- The power of learned data representations and transfer learning

10:30 AM - 10:45 AM

Break

10:45 AM - 12:15 PM

Session 2: AI Overview - Generative Models and ML Beyond Deep Learning

- Unsupervised machine learning
- (Large) generative models and their applications
- Machine learning beyond deep learning-based approaches
- Combining data and optimization for decision-making

12:15 PM - 1:00 PM

Lunch

1:00 PM - 2:30 PM

Session 3: Data - The Fuel of AI

- The role of data in AI systems
- Readily available data vs. data fit for training
- Pitfalls of using not sufficiently representative training data
- The promise and challenges of using simulations and synthetic data

2:30 PM - 2:45 PM

Break

2:45 PM - 4:15 PM

Session 4: AI Problem Formulation

- What makes a problem lend itself to AI-based approaches?
- Importance of a proper AI task specification
- AI automation vs. AI assistance

4:15 PM - 4:30 PM

Break

4:30 PM - 5:00 PM

Reflection Time

5:00 PM - 6:00 PM

Welcome Reception

DAY 2

7:30 AM - 8:30 AM

Breakfast

8:30 AM - 9:00 AM

Learning Circles

9:00 AM - 10:30 AM

Session 5: How AI Fails

- The challenge of distribution shift
- Adversarial examples in machine learning
- Data poisoning attacks
- Spurious correlations: A major driver of AI systems' failure
- Privacy challenges in the context of AI systems

10:30 AM - 10:45 AM

Break

10:45 AM - 12:15 PM

Session 6: AI Misalignment - Challenges and Opportunities

- AI misalignment: Its manifestations and consequences
- Objective under-specification: The pervasive problem in AI
- How to leverage AI misalignment

12:15 PM - 1:00 PM

Lunch

1:00 PM - 2:30 PM

Session 7: Human - AI Teaming

- Prediction vs. decision-making
- How (and why) to build human trust in AI systems?
- The danger of feedback loop formation
- How can AI augment human decision-making?

2:30 PM - 2:45 PM

Break

2:45 PM - 4:15 PM

Session 8: Adopting AI in Your Organization

- Organizational perspective on AI development and deployment
- Failure and continuous refinement as inevitable parts of AI development and deployment
- The norms and practices an AI-ready organization needs to adopt

4:15 PM - 4:30 PM

Break

4:30 PM - 5:00 PM

Reflection Time

5:00 PM - 6:00 PM

Fireside Chat

Light meal provided

DAY 3

7:30 AM - 8:30 AM

Breakfast

8:30 AM - 9:00 AM

Learning Circles

- Course goals and its motivation
- Overview of course

9:00 AM - 10:30 AM

Session 9: Ethical Issues in AI

- Data and use-case-based AI ethics problems
- Ethical aspects of emerging AI systems capabilities
- AI ethics as an integral part of personnel training
- Human-in-the-loop oversight in high-stakes decisions

10:30 AM - 10:45 AM

Break

10:45 AM - 12:15 PM

Session 10: Deploying Reliable AI

- AI deployment pipeline: From data collection to model development to model deployment to model oversight
- Importance of constant monitoring and refinement of deployed AI models
- Overview of the methodology for ensuring robustness of AI systems
- The role of explainability and interpretability in debugging and protecting AI systems
- The trade-offs and design choices deploying AI

12:15 PM - 1:00 PM

Lunch

1:00 PM - 2:30 PM

Session 11: AI Workforce Development

- The key tenets of talent management
- Importance of consistent and sustained workforce training as well as skill development
- Computational thinking and AI problem formulation as the key focuses of personnel training
- Creating a shared language and vision of AI

2:30 PM - 2:45 PM

Break

2:45 PM - 4:15 PM

Session 12: Capstone Session

A scenario planning exercise done in workshop format. The exercise involves working with the participants to identify and anticipate specific challenges that AI might pose in the setting most relevant to them - includes developing a realistic action plan.

4:15 PM - 4:30 PM

Break

4:30 PM - 5:00 PM

Reflection Time