

Level 3 AI Certificate - Short Courses for Aspiring AI Developers

(computational proficiency background and research focus required)

To obtain Level 3 Certificate - 8 courses required:

- 301, 302, 303, 304, 310 courses required

- Three (3) of the five (5) 305-309 courses required

Recommended Courses to Catch up if Needed ... Offered by ITS - starting April 7, 2025

Existing ITS Courses (Rudderham)

- Python for Data Analysis: Python Fundamentals (with Pandas)
- Python for Data Analysis: ML Using Scikit-Learn with Python
- Introduction to Argon) HPC
- Basic Linux Commands on Clusters

Web Programming and UI for AI/ML

- Comp w MS Azure
- (Mudireddy)

Programming for AI/ML

- Coding w AI
- (Airen)

HawkAI-301: 9/10/25

AI Designer Education:
Introduction to AI design and development

(Johnson, Mudireddy)

Intro course 1 hour

Introduction to Level-3 sequence, differences of Level 3 vs. Level 1+2 courses, what will be accomplished by Level 3

HawkAI-302: 9/17/25

The Ethics of AI for Developers
(Kaldjian, Canahuate, Hourcade)

1-2 hours

Bias, Legal, Regulatory Issues and Beyond, AI Usage and Trust (similar content as in Level 1 but from a designer perspective) - include 1-3 case studies

HawkAI-303: 9/24/25

Data Management for AI/ML
Development

(Davis, Liu, Wahle, Rudderham)

2 hours

Specifics of data management for AI development at Iowa, focusing on development-level data-related aspects, give 1-3 case studies

HawkAI-304: 10/1/25

Design and Development of AI
Methods and Tools

(Johnson, Bell, Jha, Mudireddy)

3 hours

Overarching Analytical AI and Generative AI Approaches --- Methods, Approaches, Data augmentation, Tools, Frameworks, Interfaces, Performance Assessment common to both analyttical and generative AI - do not include case studies, stay at general-purpose level

HawkAI-305: 10/8/25

Specifics of Generative AI
Development

(Bell)

1-2 hours

Specifics of & 1-2 case studies focusing on Methods, Approaches, Data augmentation, Tools, Frameworks, Interfaces, Performance assessment for working with text/image/video generation

HawkAI-306: 10/15/25

Specifics of Near-time Generative
AI Development

(Fine, Bell)

1-2 hours

Specifics of & 1-2 case studies focusing on near-time generative AI, with applications to performance arts and beyond ... broadly understood as including near-real-time AI for generating text/image/video or “answers” for general audience

HawkAI-307: 10/22/25

Specifics of Analytical AI working
with General Data

(Liu)

1-2 hours

Specifics of & 1-2 case studies focusing on Methods, Approaches, Data augmentation, Tools, Frameworks, Interfaces, Performance assessment for prediction analytics with general data

HawkAI-308: 10/29/25

Specifics of Analytical AI working
with Textual Data

(Jha)

1-2 hours

Specifics of & 1-2 case studies focusing on Methods, Approaches, Data augmentation, Tools, Frameworks, Interfaces, Performance assessment for prediction analytics with textual data

HawkAI-309: 11/5/25

Specifics of Analytical AI working
with Image Data

(Johnson, Chen)

1-2 hours

Specifics of & 1-2 case studies focusing on Methods, Approaches, Data augmentation, Tools, Frameworks, Interfaces, Performance assessment for prediction analytics with image data

HawkAI-310: 11/12/25

Deployment of AI/ML Tools

(Mitchell)

2 hours

Focus on API and Web Services for AI/ML - Web programming and User interfaces - include 1-3 case studies