Insights & Data

AI Academy

AI Academy

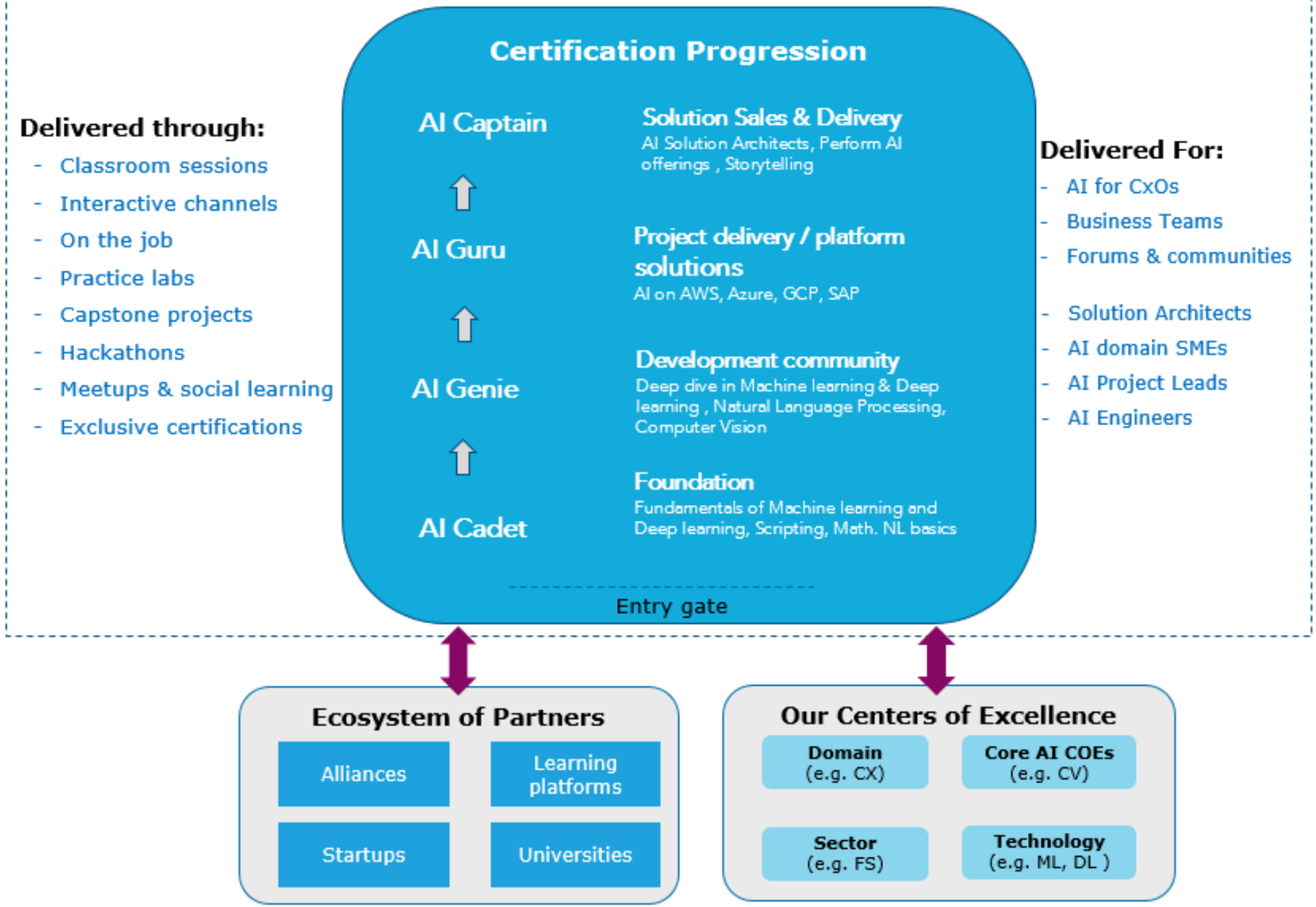
Building AI powerhouse

Digital Age Learning focused on Applied Insights and value to business.

AI Academy highlights:

- Mindset development
- Business aligned
- Learn, discover, create
- Digital age methods
- Learning progression
- Scalable and agile

Academy overview



AI Academy building blocks

AI Captain / Architects

D1
AI Solution Selling (*CxO Pitching*) – *2days*
- AI Use Cases, Domain Solutions. Story Telling
- Business Case/value, Roadmap and AI at Scale
- Perform AI offerings and Capability in depth: (e.g. Activate / Re-Imagine sessions, AIE/Innovation)

D2
AI Solution Delivery *(Must have) – 3days*
- AI Solutions Architecture – end to end (data foundation through AI apps).
- AI Foundations: e.g. Security, Ethics, Integration, Services
- Productionsizing AI application and Scaling AI.

AI Guru / Leads

C1
AI Project Delivery *(Must, 2 days)*
- Applied AI (use case, ideation)
- "Design, Build, Test, Deploy" cycle
- Automation, AI Engineering
- AI Platform

C2
Our AI Solutions
(Must, 1 day)
(e.g Visual Inspection, KIS)

C3
DL on AWS Plus cloud native: Full version
(e.g. Lex etc.)

C4
DL on Azure plus cloud native: Full Version
(e.g. LUIS etc.)

C5
SAP Leonardo: Full version
(e.g. DR, H2O etc.)

AI Genie / Developers

B1
Hands on Machine Learning
(3 days)

B2
Hands on Deep Learning (Computer Vision & NLP)
(3 days)

B3
DL on AWS Plus cloud native: Condensed
(e.g. Lex etc.)

B4
DL on Azure plus cloud native: Condensed
(e.g. LUIS etc.)

B5 – Short SAP Leonardo : Condensed
(e.g. DR, H2O etc.)

B6
Workbench/ Tools /Other Need based
(e.g. DR, H2O etc.)

AI Cadet / Foundation

A1
Basic Math & Statistics

A2
Python:
(Relevant to Data / AI / ML Pipeline)

A3
Machine Learning Foundation

A4
Deep Learning Foundation

A5
NLP Basics

- *Applied emphasis*
- *Predominantly Online with Instructor Guided / Q&A sessions*

Certification Path

Accreditation offer – Not part of certification

Combination of Instructor led Hands-on training, Capstone Project and Other Reading.

Certification overview and process

	AI Cadet	AI Genie	AI Guru	AI Captain
Audience	This our entry level certification, is for employees who aspire to start a career in AI	AI developers/emerging data scientists who are working on Capgemini AI projects	Project leads/Sr Data scientists/ Data engineers/Solution leads who are implementing AI solutions in cloud	Experts, someone who has successfully designed AI solutions for Capgemini clients and considered master in AI
Eligibility	Having software development background preferably in database related environment	Completed AI Cadet in last three months or more. Lateral entrants to AI Genie will have to pass AI Cadet certification examination.	Completed AI Genie certification in last one year or more Lateral entrants to AI Robo will have to pass AI Cadet certification examination.	Completed AI Guru certification in last one year or more Lateral entrants to AI Guru will have to pass AI Cadet certification examination.
Certification steps	• Complete the suggested training path • Pass the AI Cadet online Examination, which is based on AI Cadet curriculum	• Complete the AI Genie training path • Complete the capstone project on ML?DL	• Complete the AI Guru training path • Submit the AI Case • Get two Capgemini I&D sponsors recommendation who are confident about your project leafing capability	• Complete the AI Captain training path • Get two Capgemini I&D sponsors recommendation • Submit proof of work • Face AI board interview
Assessment areas & training paths	• AI basics, Machine learning (ML) fundamentals , Math for ML, Python for data science, Neural network basics • Self learning 80 hours & 12 hours of mentoring spread across 8 weeks	• Deep dive in Machine learning & Deep learning , Natural Language Processing, Computer Vision • Self learning 40 hrs. and in class training of seven days	• AI Project delivery, our AI solutions (core module) • Accredited(optional) modules AI on AWS, AI on Azure, AI on SAP Leonardo • Recommended self learning and 2 days of instructor led training	• AI Architect skills, Perform AI solutions • 80 hours of self paced learning and classroom training 5 days
Availability status	Available	Available	Available	Under development
Sponsor role	Sponsor are Capgemini business/delivery leaders (grade E&F), who feel comfortable about incumbent ability to contribute on client's AI projects			
AI board	AI board is a body in AI Academy of elite AI SMEs who will evaluate candidates for AI Guru and AI Captain certification levels			

AI Cadet: Curriculum & training path

	Basic math for ML	Python scripting	Machine Learning	Deep Learning	NLP Basic
Syllabus (Certification will be based on these topics)	• Introduction • Equations, Functions, and Graphs • Differentiation and Optimization • Vectors and Matrices • Statistics and Probability overview	• Python Basics • Control Flow • Python Lists, dictionaries, sets • Functions and Packages • Numpy • Pandas • Scikit learn • Seabon • Matplotlib	• What is Machine learning (ML)? • Supervised and unsupervised NL • Classification Vs Regressions • Model and cost function • Hyper-parameter learning • Linear Regression with single, Multiple Variables • Logistic Regression • Support Vector Machines • Decision tree	• Feed Forward Neural Network • Activation Functions • Loss Functions • Deep Neural Network • Commonly used neural networks	• Fundamentals of text processing
Recommended Self learning modules (Recommended duration 80 hrs. - not mandatory)	Essential Mathematics for Artificial Intelligence - eDX	Introduction to Python for Data Science - eDX	Machine Learning — Andrew Ng, Stanford University Or Machine Learning — Andrew Ng, Stanford University [FULL COURSE Youtube]		**Natural Language Processing - Youtube**
Week1	Mentoring				
Week2		Mentoring			
Week3		Mentoring			
Week4			Mentoring		
Week5			Mentoring		
Week6				Mentoring	
Week7				Mentoring	
Week8					Mentoring

Mentoring session will be weekly once of 90 mins
Will cover important concepts and QnA
Mentoring sessions are mandatory

AI Genie: Curriculum & training path

	Self paced learning	Machine Learning hands on	Deep Learning & computer vision hands on	Natural language processing hands on	DL project and evaluation
Syllabus (Certification will be based on these topics)	• Machine Learning • Deep Learning • Computer vision • NLP	• Introduction to statistics • Python quick reference • Model lifecycle and evaluations • Linear regression • Clustering • Classification – Binary and multiclass • Classification – Naïve bayes	• Neural networks and deep learning • Keras deep learning in framework in Python • Computer vision fundamentals • CNN & Image processing • Object detection • Facial recognition & detection • Feature extraction	• Introduction to NLP • NLP basic tasks using Python • Text classification • Sentiment analysis • Word vector representation and recursive nets • Recursive Neural Nets • Sequence Models and LSTM • Information Retrieval • KIS/CDP Solution	
Recommended Self learning modules (Recommended duration 80 hrs – not mandatory)	E-Learning modules – Pluralsight	This training path is also available in virtual/remote format			
Week1	Self learning				
Week2	Self learning				
Week3(3 days)		Classroom ILT & ML project			
Week4(4 days)			Classroom ILT	Classroom ILT	
Week5					Assignment
Week6					Assignment
Week7					Assignment
Week8					Evaluation & Certification

AI Guru (Core module): Curriculum & training path

	Self paced learning	The domain of Machine Learning development	AI Project delivery	Case work

Syllabus (Certification will be based on these topics)	• Machine Learning
	• Deep Learning
	• Computer vision
	• NLP
		• Motivation
		• Journey of Data to AI based Decisions
		• Enterprise Data Science Framework
		• Data Science Paradigms
		• ML Paradigms - Supervised, Unsupervised, Semi Supervised, Reinforcement Learning
		• AI vs. ML vs. DL
		• Machine Learning – Key Algorithms
		• Deep Learning
		  • ANN, CNN, RNN, LSTM
		• Reinforcement Learning
		• Data Science Themes, Offerings
			• Discover to Deploy
			• Perform AI offerings
			  • AI Transform,
			  • AI Reimagine,
			  • AI Activate,
			• Data Science Checklist
			• Data Science Methodologies
			• Right platform, Ingestion/Re-engineering, AI and Visualization toolkit
			• Domain and Data Science
			• Reference Architectures	

Recommended Self learning modules (Recommended duration 80 hrs - not mandatory)	E-Learning modules - Pluralsight	This training path is also available in virtual/remote format		
Week1	Self learning			
Week2	Self learning			
Day 1		Classroom ILT & ML project		
Day 2			Classroom ILT	
Week5				Case work
Week6				Case work
Week7				Case work
WEEK8				Evaluation & Certification

AI on AWS – Training path

Prerequisite – AI Genie certified or experienced in ML/DL projects

1. Self paced learning (8 - 10 hours)	2. SME led classroom (2 days) *	3. Capstone project
AWS Cloud Practitioner Essentials • AWS Cloud Practitioner Essentials (Second Edition) • AWS Cloud Practitioner Essentials (Second Edition): Introduction to the AWS Cloud • AWS Cloud Practitioner Essentials (Second Edition): AWS Core Services • AWS Cloud Practitioner Essentials (Second Edition): AWS Integrated Services • AWS Cloud Practitioner Essentials (Second Edition): AWS Architecture • AWS Cloud Practitioner Essentials (Second Edition): AWS Security • AWS Cloud Practitioner Essentials (Second Edition): Pricing and Support • AWS Cloud Practitioner Essentials (Second Edition): Course Summary	Introduction to Cloud Computing & Microsoft Azure Cloud Overview of Azure AI technology Stack Azure Cognitive Services - Expand slides into individual cognitive areas Hands-on exercise with Azure Cognitive Services	To be completed in 10 days offline
Exploring the Machine Learning Toolset • Introduction to Amazon SageMaker • Introduction to Amazon SageMaker Neo • Introduction to Amazon SageMaker Ground Truth • Introduction to Amazon Rekognition • Introduction to AWS DeepLens • Introduction to Amazon Polly • Introduction to Amazon Lex • Introduction to Amazon Transcribe • Introduction to Amazon Translate • Introduction to Amazon Comprehend • Introduction to Amazon Comprehend Medical • Introduction to Amazon Forecast • Introduction to Amazon Elastic Inference • Introduction to AWS Marketplace - Machine Learning Category	Introduction to Azure ML Studio ML Studio Hands-on Introduction to Azure ML Services & Components Azure ML Services Hands-on Azure ML Services Hands-on	

*This classroom module is also available in virtual/remote format

AI on Azure – Training path

Prerequisite – AI Genie certified or experienced in ML/DL projects

1. Self paced learning (10-12 hours)*	2. SME led classroom (2 days)*	3. Capstone project – 10 days offline
Azure architecture (4 to 8 hour) Cloud Computing Fundamentals Cloud Computing Infrastructure Elements The Hybrid Cloud Platform as a Service Infrastructure as a Service Microsoft Azure Deployment Planning Getting Started with Azure Machine Learning (3 to 6 hours) Getting Started with Azure Machine Learning (3 to six hours) Introduction Getting to Know Azure Machine Learning Diving Deeper into Azure Machine Learning Evaluating Your Trained Model Deploying Your Azure ML Solution Maintaining Your Azure ML Solution *for pluralsight access reach out to you learning business partner	Introduction to AWS and Creating account Overview of AWS technology Stack AWS Cognitive Services Introduction Hands-on exercise with AWS Cognitive Services Introduction to Sage Maker Sage Maker hands on Computer Vision Project Demo	Capstone project on Machine Learning on Sagemaker

*This classroom module is also available in virtual/remote format

AI on SAP Leonardo – Training path

Prerequisite – AI Genie certified or experienced in ML/DL projects

1. Self paced learning (8 - 10 hours)	2. SME led classroom (2 days)*	3. Capstone project
To be added	SAP Cloud platform introduction Cloud foundry for SAP Cloud platform SAP Cloud platform services SAP Cloud platform Leonardo portfolio services Introduction to Machine Learning – Types and Challenges Introduction to Deep learning – Neural Networks Introduction to Natural Language Processing Machine Learning and Deep learning with SAP Leonardo ML Foundation SAP Leonardo Machine Learning Foundation Architecture SAP Leonardo ML Foundation Functional Services SAP Leonardo ML Foundation Services – Example Scenarios ML Foundation Service Enablement ML Foundation Retraining BYOM (Bring Your Own Model)	To be completed in 10 days offline
	Introduction to IoT Sensors, Connectivity & SAP Cloud Platform SAP Cloud platform IoT service on-boarding and service cockpit SAP Leonardo IoT Foundation – Technical Services SAP Leonardo Device Management Edge Computing SAP IoT Application Enablement	

*This classroom module is also available in virtual/remote format

Useful Links

UI Academy –

https://talent.capgemini.com/university/pages/learners_corner/insights_and_data_ai_academy/

Register for Training -

https://builders.capgemini.com/event/takeevent?content_id=DB98B21E-5941-131D-0949-F1498BABFDE8