| S/<br>N  | Online Al Course   | Provider                                     | Level                           | Prerequisites                                      | Specialization   | Туре                     | Duration  |
|----------|--|--|---------------------------------|--|--|--------------------------|---|
|          | CREATED BY: SYNTAXAND                                      | SCRIPT.COM/BLOG                              |                                 |  |  |                          |   |
| 1        | Elements of Al   | University of<br>Helsinki &<br>MinnaLearn    | Beginner<br>(Non-<br>Technical) | None   | AI Fundamentals &<br>Building AI   | Free with<br>Certificate | 6 weeks<br>(5-10<br>hours /<br>week)            |
| 2        | Al for Everyone  | DeepLearning.Al /<br>Andrew Ng<br>(Coursera) | Beginner                        | None   | Al Literacy, Ethics,<br>Business Strategy  | Free to<br>Audit         | 6hrs  |
| 3        | Introduction to<br>Generative AI                           | Google Cloud Skills<br>Boost                 | Beginner                        | None   | Generative AI: Basics,<br>principles, prompt design,<br>prompt tuning and<br>multimodal AI | Free                     | 8 hrs<br>(Google<br>skill<br>badge)             |
| 4        | Machine Learning Crash Course                              | Google for<br>Develo/s                       | Beginner-<br>Intermediate       | None   | ML with TensorFlow   | Free                     | 15 hours  |
| <u>5</u> | Introduction to AI   | IBM (Coursera)                               | Beginner                        | None   | Al concepts, ML, DL,<br>LLMs, NLP, computer<br>vision, ethics                              | Free to<br>Audit         | 10 hours  |
| 6        | Building Al Chatbots<br>Without Programming                | IBM (Coursera)                               | Beginner                        | None   | Designing and deploying Al chatbots using IBM watsonx Assistant                            | Free to<br>Audit         | 14 hours  |
| 7        | Google AI Essentials Specialization                        | Google (Coursera)                            | Beginner                        | None   | Al fundamentals for productivity & ethics  | Free to<br>Audit         | 4 hours   |
| 8        | CS50's Introduction to Artificial Intelligence with Python | Harvard<br>(OpenCourseWare)                  | Intermediate                    | CS50x or at least one year of ex/ience with Python | Python-based AI  | Free to audit            | Seven<br>weeks<br>(10 - 30<br>hrs /<br>week)    |
| <u>9</u> | Introduction to Deep<br>Learning (MIT 6.S191)              | MIT<br>(OpenCourseWare<br>and IAP bootcamp)  | Advanced                        | None   | Deep Learning, NLP,<br>Computer Vision   | Free                     | 20hrs   |
| 10       | Artificial Intelligence                                    | MIT<br>OpenCourseWare                        |                                 |  | Al reasoning, search, constraints, architecture, neural nets                               | Free                     | 24hrs   |
| 11       | Practical Deep Learning<br>for Coders v5                   | fast.ai                                      | Advanced                        | Coding ex/ience                                    | Deep learning for CV, NLP,<br>tabular data, deployment                                     | Free                     | ~13.5hrs<br>+<br>optional<br>part 2<br>(~30hrs) |

| S/<br>N   | Online Al Course   | Provider                                    | Level                       | Prerequisites  | Specialization  | Туре                                    | Duration                           |
|-----------|--|---|-----------------------------|--|---|---|------------------------------------|
| 12        | ChatGPT Prompt Engineering for Developers  | DeepLearning.AI +<br>OpenAI                 | Intermediate                | None   | Prompt Engineering for<br>LLMs                        | Free                                    | 1.5hrs                             |
| <u>13</u> | Generative AI for<br>Everyone  | DeepLearning.Al                             | Beginner                    | None   | Generative AI tools,<br>prompt engineering,<br>ethics | Free to<br>Audit                        | 4hrs                               |
| 14        | IBM SkillsBuild Al<br>Modules  | IBM   | Beginner                    | None   | Al foundations and applications                       | Free (Earn<br>an IBM<br>skill<br>badge) | 10 hours                           |
| 15        | Al for All: From Basics to<br>GenAl Practice   | NVIDIA Online<br>Academy                    | Beginner                    | None   | Al basics, GenAl                                      | Free with<br>Certificate                | 2.5 hrs                            |
| 16        | Building RAG Agents with LLMs  | NVIDIA Online<br>Academy                    | Technical -<br>Intermediate | Intermediate Python ex/ience, Introductory deep learning knowledge (PyTorch and transfer learning) | Generative AI/LLM                                     | FREE FOR<br>LIMITED<br>TIME             | 8 hrs                              |
| <u>17</u> | Generative AI Explained  | NVIDIA Online<br>Academy                    |                             | None   | Generative AI/LLM                                     | Free                                    | 2hrs                               |
| 18        | An Even Easier<br>Introduction to CUDA   | NVIDIA Online<br>Academy                    | Introductory                | Writing, compiling and running C or C++ code   | Accelerated Computing                                 | Free                                    | 1hr                                |
| 19        | TensorFlow 2.0 Complete<br>Course - Python Neural<br>Networks for Beginners<br>Tutorial              | freeCodecamp                                | Introductory                | Python programming   | TensorFlow 2.0 and<br>Python neural networks          | Free                                    | 7hrs                               |
| 20        | Generative AI Full Course  - Gemini Pro, OpenAI, Llama, Langchain, Pinecone, Vector Databases & More | freeCodecamp                                | Beginner                    | None   | Generative AI tools,<br>prompt engineering,<br>ethics | Free                                    | 30+ hrs                            |
| <u>21</u> | Intro to Artificial<br>Intelligence  | Stanford University<br>(Udacity)            | Intermediate                | None   | Al fundamentals, Al applications                      | Free                                    | 16 weeks<br>(6 hours<br>a week)    |
| 22        | AloT Foundations   | Udacity (in<br>collaboration with<br>Bosch) | Intermediate                | Baseline knowledge of Al and IoT concepts  | AI + Internet of Things                               | Free                                    | 2 months<br>(6-<br>10hrs/we<br>ek) |

| S/<br>N   | Online Al Course                                  | Provider  | Level                     | Prerequisites   | Specialization  | Туре          | Duration           |
|-----------|---|---|---------------------------|---|---|---------------|--------------------|
| 23        | Al Fundamentals                                   | Microsoft (Udacity)                             | Beginner                  | Familiarity with high-level Al concepts Basic understanding of cloud concepts (Azure, ML workflows) | Al workflow for Azure   | Free          | 16 hrs             |
| 24        | Introduction to Machine Learning with Azure       | Microsoft (Udacity)                             | Beginner-<br>Intermediate | None  | ML fundamentals + Azure tooling   | Free          | 22 hours           |
| <u>25</u> | Intro to Machine Learning                         | Udacity   | Intermediate              | Python, basic statistics & linear algebra   | Supervised & unsupervised learning with Python  | Free          | 65hrs hrs<br>total |
| 26        | Machine Learning<br>Interview Preparation         | Udacity   | Intermediate<br>-Advanced | ML fundamentals,<br>programming skill   | ML interview prep:<br>algorithms, problem-<br>solving, mock interviews  | Free          | 4hrs               |
| 27        | AWS Machine Learning<br>Foundations               | AWS (Udacity)                                   | Beginner-<br>Intermediate | None (basic Python<br>helpful)  | ML fundamentals using<br>AWS (SageMaker,<br>DeepRacer, etc.)  | Free          | 11hrs              |
| 28        | Data Science Interview Preparation                | Udacity   | Intermediate              | Python, SQL, statistics, ML basics  | Python & SQL practice, ML questions, behavior insights, mock interview  | Free          | 6hrs               |
| <u>29</u> | Intro to Data Analysis                            | Udacity   | Intermediate              | Basic Python  | Data cleaning, exploration, visualization with Python   | Free          | 20hrs              |
| 30        | Agentic Al and Al Agents: A Primer for Leaders    | Vanderbilt<br>University<br>(Coursera)          | Beginner                  | None  | Differentiating AI agents<br>vs automation; building<br>simple custom GPTs;<br>practical decision<br>frameworks | Free to audit | 5hrs               |
| 31        | <u>Data Analysis with R</u>                       | Udacity   | Beginner-<br>Intermediate | None  | Exploratory Data Analysis + visualization using R   | Free          | 23hrs              |
| 32        | Data Structures &<br>Algorithms Interview<br>Prep | Udacity   | Intermediate<br>-Advanced | Programming experience<br>and basic Data Structures<br>and Algorithms knowledge                     | Practical interview problems and review   | Free          | 2hrs               |
| 33        | Secure and Private Al                             | Udacity (in<br>partnership with<br>Facebook AI) | Advanced                  | ML/DL knowledge,<br>PyTorch, and Python   | Federated Learning,<br>Differential Privacy,<br>Encrypted ML  | Free          | 120hrs<br>(8hrs)   |

| S/<br>N   | Online Al Course   | Provider   | Level  | Prerequisites  | Specialization   | Туре   | Duration                        |
|-----------|--|--|--|--|--|--|---------------------------------|
| 34        | Sample-based Learning<br>Methods                         | University of<br>Alberta                                       | Intermediate   | Python, basic math (linear<br>algebra, probability, and<br>calculus), familiarity with<br>Reinforcement learning<br>concepts | Reinforcement learning   | Free to audit  | 22hours                         |
| 35        | Ethics of Al   | University of<br>Helsinki                                      | Beginner   | None   | Al ethics, transparency and accountability   | Free<br>(certificate<br>and<br>university<br>credit) | -                               |
| 36        | Al Technology for<br>Marketing Optimization              | Davidson College<br>and Galileo<br>University (edX)            | Beginner to Intermediate (designed for marketing professional s) | None   | Al for marketing. Applications of predictive analytics, real-time optimization, natural language processing (NLP), and neural networks.        | Free to audit  | 3 weeks,<br>3-5 hours<br>a week |
| <u>37</u> | The Future of Work: Preparing for Disruption             | World Bank Group<br>(edX)                                      | Beginner   | None   | How A.I., automation, advanced technologies and new businesses are changing the world.   | Free to audit  | 5 weeks,<br>3-5 hours<br>a week |
| 38        | Machine Learning I Building Large Language Models (LLMs) | Stanford University<br>Online                                  | Beginner-<br>Intermediate  | None   | Building a ChatGPT-like<br>model, covering both<br>pretraining (language<br>modeling) and post-<br>training (SFT/RLHF)                         | Free   | ~2hrs                           |
| 39        | Language Modeling from<br>Scratch                        | Stanford University Online                                     | Beginner-<br>Intermediate  | None   | Al modelling, LLM  | Free   | ~1hr                            |
| 40        | Overview of<br>Transformers                              | Stanford University<br>Online                                  | Beginner-<br>Intermediate  | None   | History of NLP,<br>Transformers and how<br>they work, and their<br>impact  | Free   | ~1hr                            |
| 41        | On the Biology of a Large<br>Language Model              | Stanford University<br>Online (Josh<br>Batson of<br>Anthropic) | Beginner-<br>Intermediate  | None   | NLP, The physics of<br>LLMs: shedding light on<br>Al hallucination, planning,<br>reasoning, (un)<br>faithfulness, and<br>emergent capabilities | Free   | ~1hr                            |

| S/<br>N   | Online Al Course   | Provider           | Level                     | Prerequisites   | Specialization   | Туре | Duration |
|-----------|--|--------------------|---------------------------|---|--|------|----------|
| 42        | Generative AI for<br>Healthcare (Part 1):<br>Demystifying Large<br>Language Models |                    | Beginner-<br>Intermediate | None  | Introduces healthcare<br>professionals to large<br>language models (LLMs)<br>like ChatGPT                            | Free | ~1hr     |
| 43        | Become an Al-Powered<br>People Manager   | LinkedIn Learning  | Beginner                  | None  | Generative AI for management. AI for business  | Free | ~1hr     |
| 44        | Everyday Al concepts   | LinkedIn Learning  | Beginner                  | None  | Key Al concepts for business   | Free | ~1hr     |
| <u>45</u> | Introduction to Artificial Intelligence  | LinkedIn Learning  | Beginner                  | None  | Human-Al collaboration<br>and engaging with Al<br>systems effectively  | Free | 2hrs     |
| 46        | Al Fluency: Framework & Foundations  | Anthropic          | Beginner                  | None  | Learn to collaborate with<br>Al systems effectively,<br>efficiently, ethically, and<br>safely                        | Free | 3-4hrs   |
| 47        | Prompt Evaluation  | Anthropic (GitHub) | Advanced                  | None  | Workflow implementation with the Anthropic API   | Free | -        |
| 48        | Real-world Prompting   | Anthropic (GitHub) | Advanced                  | Experienced developers, prompt engineering basics           | Prompt engineering   | Free | -        |
| <u>49</u> | Prompt Engineering<br>Interactive Tutorial   | Anthropic (GitHub) | Advanced                  | Experienced developers, prompt engineering basics           | Prompt engineering   | Free | -        |
| 50        | Artificial Intelligence for Beginners  | Microsoft          | Beginners                 | None  | TensorFlow and PyTorch, Al ethics, Neural networks, Neural architecture, Genetic algorithms and multi- agent systems | Free | 12 weeks |
| 51        | Introduction to Al for<br>Business Users   | Microsoft Learn    | Beginners                 | None  | Al in Power BI & Power Platform for business insights and automation   | Free | 2hrs     |
| 52        | Machine Learning for<br>Beginners  | Microsoft (GitHub) | Beginners                 | None  | Classic ML: regression,<br>classification, clustering,<br>NLP, time-series, RL                                       | Free | 12 weeks |
| <u>53</u> | <u>Data Science for</u><br><u>beginners</u>  | Microsoft (GitHub) | Beginners                 | Basic computer skills;<br>editor or notebook<br>familiarity | Python data manipulation,<br>visualization, data science<br>lifecycle, generative AI<br>module                       | Free | 10 weeks |

| S/<br>N   | Online Al Course  | Provider   | Level     | Prerequisites  | Specialization  | Туре | Duration                   |
|-----------|---|--|-----------|--|---|------|----------------------------|
| 54        | Generative AI for<br>Beginners (Version 3)                      | Microsoft (GitHub)   | Beginners | Basic coding skills +<br>GitHub account; optional<br>cloud/API setup   | 21 lessons on gen-Al:<br>LLMs, prompt<br>engineering, app building,<br>agents, open-source, fine-<br>tuning, UX, security | Free | Self-<br>paced             |
| 55        | Al Agents for Beginners   | Microsoft (GitHub)   | Beginners | Python 3.12+, GitHub account; Azure optional   | Agentic AI: design<br>patterns, tool use, RAG,<br>multi-agent, productio  | Free | Self-<br>paced             |
| 56        | Model Context Protocol<br>(MCP) for Beginners                   | Microsoft (GitHub)   | Beginner  | Basic knowledge of C#,<br>Java, or Python<br>Understanding of client-<br>server model and APIs<br>(Optional) Familiarity with<br>machine learning concepts | Learn MCP with Hands-on<br>Code Examples in C#,<br>Java, JavaScript, Python,<br>and TypeScript                            | Free | Self-<br>paced             |
| <u>57</u> | Microsoft Azure Al<br>Fundamentals: Computer<br>Vision          | Microsoft Learn  | Beginner  | Basic ability to navigate the Azure portal, Prior exposure to cloud concepts and client-server apps is helpful   | Computer Vision, Facial<br>Recognition, OCR via<br>Azure Cognitive Services   | Free | 2hrs                       |
| 58        | Deep Learning (An MIT<br>Press book)                            | Ian Goodfellow and<br>Yoshua Bengio and<br>Aaron Courville | Advanced  | Applied Maths  | Machine learning basics,<br>Deep learning research  | Free | -                          |
| 59        | Sora Tutorials  | OpenAl   | Beginner  | Access to Sora (via<br>ChatGPT Plus/Pro)   | Al video creation & editing: storyboard, recut, remix, blend, loop  | Free | 1-3 min<br>per<br>tutorial |
| 60        | Introduction to ChatGPT Edu: Your Al-Powered Academic Companion | OpenAl   | Beginner  | None   | Deploying and adapting<br>ChatGPT Edu campus-<br>wide; teaching, tutoring,<br>admin; productivity                         | Free | ~1 hour                    |
| <u>61</u> | Intro to AI for K-12<br>Educators                               | OpenAl   | Beginner  | None   | Foundational Al literacy for teaching & classroom use   | Free | ~1 hour                    |
| 62        | Organization and Automation: Managing Time and Tasks with Al    | OpenAl   | Beginner  | None   | Al-driven time and task<br>management; custom<br>GPTs and agentic<br>automation   | Free | ~18 mins                   |

| S/<br>N | Online Al Course   | Provider               | Level        | Prerequisites   | Specialization   | Туре                  | Duration                   |
|---------|--|------------------------|--------------|---|--|-----------------------|----------------------------|
| 63      | Intro to OpenAl API  | codecademy             | Beginner     | None  | Intro to OpenAl GPT API:<br>endpoints, prompts,<br>controlling output                          | Free to audit         | <1hr                       |
| 64      | Learn How to Use Al for<br>Coding                            | codecademy             | Beginner     | None (Basic programming knowledge is helpful)   | Prompt-based coding<br>assistance and Al-driven<br>development pipelines                       | Free                  | ~1 hour                    |
| 65      | Generative AI on AWS: Creating Intelligent Chatbots          | codecademy             | intermediate | Prior familiarity with cloud<br>services, Some<br>understanding of AI<br>concepts and Python or<br>other scripting                                  | Context-aware conversations, sentiment analysis, and integration with high-security standards. | Free                  | 1hr                        |
| 66      | Using OpenAl APIs:<br>Accessing OpenAl APIs<br>from Python   | codecademy             | Beginner     | None  | How to integrate OpenAl's chat and completions APIs using Python and cURL                      | Free with certificate | 2hrs                       |
| 67      | Intro to Al Transformers                                     | codecademy             | Intermediate | Hugging face, PyTorch and neural networks   | Transformer<br>fundamentals; GPT-2 text<br>generation; BERT<br>sentiment analysis              | Free                  | 2hrs                       |
| 68      | Applied Al: Building NLP Apps with Hugging Face Transformers | LinkedIn Learning      | Intermediate | General ML and deep<br>learning understanding,<br>Knowledge of NLP<br>concepts, Proficiency in<br>Python, Jupyter<br>Notebooks, and<br>frameworks.  | Building NLP apps: QA,<br>summarization,<br>generation, model fine-<br>tuning, deployment      | Free                  | ~1hr                       |
| 69      | Al Text Summarisation<br>with Hugging Face                   | LinkedIn Learning      | Advanced     | Solid understanding of AI/ML fundamentals, Comfortable with Python programming  | Full-text summarization:<br>extractive & abstractive,<br>model pipelines, fine-<br>tuning      | Free                  | 2hrs                       |
| 70      | Al: MLOps Tools: MLflow<br>and Hugging Face                  | edX                    | Beginner     | Basic familiarity with<br>machine learning concepts<br>and Python programming.<br>This AI course is part of a<br>professional certificate<br>series | MLflow, Hugging Face,<br>foundational instruction<br>on CI/CD, containerization                | Free to audit         | 4 weeks<br>(3-<br>6 h/week |
| 71      | Open Source Models with<br>Hugging Face                      | <u>DeepLearning.ai</u> | Beginner     | None  | Building multimodal AI<br>apps using open-source<br>models + deployment                        | Free                  | 2hrs                       |

| S/<br>N | Online Al Course                           | Provider                                  | Level        | Prerequisites   | Specialization   | Туре          | Duration                             |
|---------|--|---|--------------|---|--|---------------|--------------------------------------|
| 72      | Hugging Face MCP course                    | Hugging Face                              | Intermediate | Basic understanding of AI<br>and LLM concepts.<br>Familiarity with software<br>development principles<br>and API concepts.<br>Experience with Python or<br>TypeScript | Model Context Protocol:<br>theory, SDK use,<br>integrations, project-<br>based   | Free          | 5 weeks<br>(~5hrs/w<br>eek)          |
| 73      | Prompt Engineering for Everyone            | Code Signal                               | Beginner     | None  | Introduction to Prompt Engineering., Text modification (summarization, tone/style preservation), Advanced strategies (chain-of-thought, system prompts, iterative prompting)     | Free          | 5hrs                                 |
| 74      | Introduction to Robotics                   | Stanford University                       | Intermediate | Solid understanding of linear algebra and matrix operations. Familiarity with dynamics, algorithmic thinking, and basic engineering/math principles.                  | Spatial descriptions, Forward & inverse kinematics, Jacobians and robot dynamics, Motion planning and trajectory generation, Control strategies, Manipulator design fundamentals | Free          | 19hrs                                |
| 75      | Artificial Intelligence for Robotics       | Stanford University<br>(Udacity)          | Intermediate | Programming experience,<br>preferably in Python, Math<br>proficiency, especially<br>linear algebra, probability,<br>and Bayes' theorem .                              | Probabilistic inference / localization, Search & planning algorithms, Tracking & PID control, Simultaneous Localization and Mapping (SLAM)                                       | Free          | 8 weeks<br>(~6<br>hours per<br>week) |
| 76      | Robotics Foundations I -<br>Robot Modeling | University of<br>Napoli Federico<br>(edX) | Intermediate | Linear algebra, Calculus,<br>Physics, Python<br>programming   | Coordinate<br>transformations,<br>Forward/inverse<br>kinematics, Jacobians,<br>Trajectory planning   | Free to audit | 8 weeks                              |

| S/<br>N | Online Al Course         | Provider              | Level        | Prerequisites                                 | Specialization   | Туре | Duration |
|---------|--------------------------|-----------------------|--------------|---|--|------|----------|
| 77      | Introduction To Robotics | MIT<br>OpenCourseWare | Intermediate | Foundational mechanical engineering knowledge | Robot mechanisms & kinematics, Dynamics of multi-body systems, Motion planning & control, Sensors, actuators, embedded systems, and simulation | Free | 1hr      |