SHOW NOTES

@mjkabir Notes

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AI Education for High School Students

I am looking for AI courses for my 9th-grade son, so here is my research on this topic.

TABLE OF CONTENTS

AI REVIEW PASSED.

Generative AI Explained - Free Introductory Course By NVIDIA

This no-code course offers a comprehensive introduction to Generative AI, focusing on its concepts, applications, and the challenges and opportunities it presents. Learn about neural networks' role in generating new content, explore real-world applications, and gain insights into the field's future.

Learning Objectives:

- Understand Generative AI and its underlying mechanisms.
- Recognize various applications of Generative AI.
- Discuss challenges and opportunities in this field.

Course Outline:

- Generative AI definition and functionality.
- Applications of Generative AI in different contexts.
- Examination of challenges and opportunities within Generative AI.

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248 days 23 hrs ago

Building A Brain in 10 Minutes - Free Introductory Course By NVIDIA

This notebook explores the biological and psychological inspirations to the world's first neural networks.

Learning Objectives:
The goals of this exercise include:

- Exploring how neural networks use data to learn.
- Understanding the math behind a neuron.

Topics Covered:

- AI Data
- Neurons
- TensorFlow 2

Course Outline:

- Data
- Building a Neuron
- Initiate Training
- Evaluating the Model

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248 days 23 hrs ago

Getting Started with AI on Jetson Nano - Free Intermediate Level Course By NVIDIA

Unlock the potential of AI with the NVIDIA Jetson Nano Developer Kit! This course guides you through building deep learning projects on your Jetson Nano using Jupyter iPython notebooks. Create image classification, object detection, segmentation, and speech processing applications.

Exclusive note: This course is specifically tailored to support the NVIDIA Jetson Nano Developer Kit, offering a unique learning experience that is not available for the NVIDIA Jetson Orin Nano Developer Kit.

Required Hardware:

- NVIDIA Jetson Nano Developer Kit
- High-performance 32GB microSD card
- 5V 4A power supply with 2.1mm DC barrel connector
  2-pin jumper
- Logitech C270 USB Webcam
  USB cable (Micro-B To Type-A)

Additional Computer Requirements:

- Internet-connected computer for flashing microSD card
- Available USBA port (adapter needed for USBC ports)

Learning Objectives:

- Set up Jetson Nano and camera
  Collect and annotate image data
  Train neural networks and create models
  Run inference on Jetson Nano with custom models
  Upon completion, you'll have the skills to develop deep-learning classification and regression models with the Jetson Nano.

Visit Course Site

**** UPDATE ****

I haven't found the Jetson Neno Kit available anywhere!

248 days 23 hrs ago

Building RAG Agents with LLMs - Free NVIDIA Intermediate Level Course

Seize the opportunity to explore the world of advanced Large Language Models (LLMs) with this exclusive limited-time free course! Learn practical deployment strategies and design LLM systems that interact efficiently with users through internal reasoning, dialog management, and effective tooling. Dive into topics such as inference interfaces, pipeline design, dialog states, semantic similarity, and more to develop your own cutting-edge LLM applications.

Learning Objectives:

- Compose LLM systems leveraging internal and external reasoning components
- Design dialog management systems for information structuring
- Implement embedding models for content retrieval and dialog guard railing
- Develop a RAG agent for answering questions without fine-tuning

Course Outline:

- Introduction and environment setup
- LLM inference interfaces and microservices
- Designing LLM pipelines using LangChain, Gradio, and LangServe
- Dialog state management and knowledge extraction
- Working with long-form documents
- Embeddings for semantic similarity and guard railing
- Vector stores for efficient document retrieval
- Evaluation, assessment, and certification

Upon completion, participants will possess the knowledge and skills to develop and deploy their own LLM applications confidently.

Visit Course Site

**** DISCLAIMER ****

This course is not going to remain free for all times.

248 days 23 hrs ago

Accelerate Data Science Workflows with Zero Code Changes - NVIDIA Free Introductory Course

Discover the power of NVIDIA RAPIDS to accelerate your data science workloads across industries. In this course, you'll learn how to harness the efficiency of GPU acceleration with zero code changes, speeding up data processing and increasing productivity. Gain hands-on experience in GPU-accelerated workflows and witness a significant reduction in processing time.

Learning Objectives:

- Understand the benefits of a unified CPU-GPU workflow for data science tasks
- Learn to GPU-accelerate data processing and machine learning workflows without code changes
- Experience the remarkable reduction in processing time with GPU acceleration

Course Outline:

- Introduction to a unified CPU-GPU workflow for data science
- GPU-accelerating various data processing and machine learning workflows
- Demonstrating the efficiency of GPU-accelerated workflows through hands-on exercises

Upon completion, you'll have the knowledge and skills to leverage NVIDIA RAPIDS and significantly speed up your data science workflows.

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Introduction to AI in the Data Center - Free Introductory Level Coursera Course

Learn about AI, machine learning, deep learning, GPU architecture, deep learning frameworks, and deploying AI workloads.Understand requirements for multi-system AI clusters and infrastructure planning.

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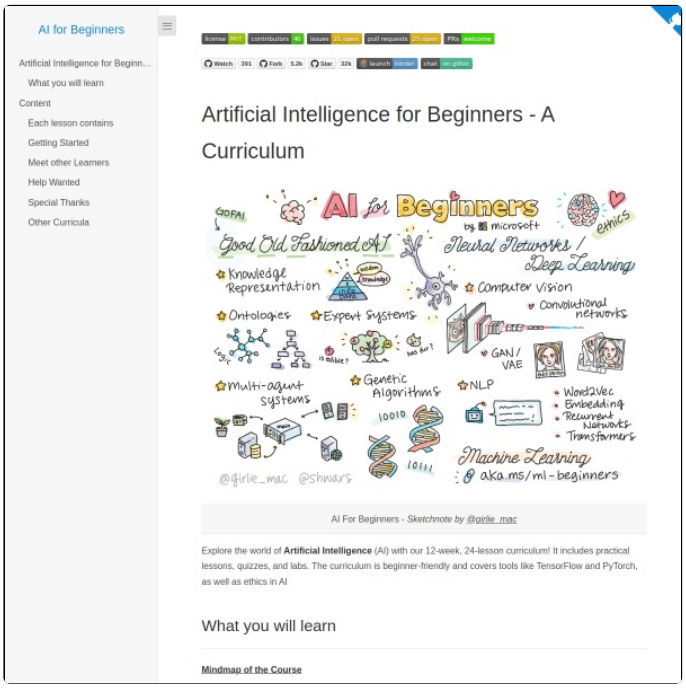
248 days 23 hrs ago



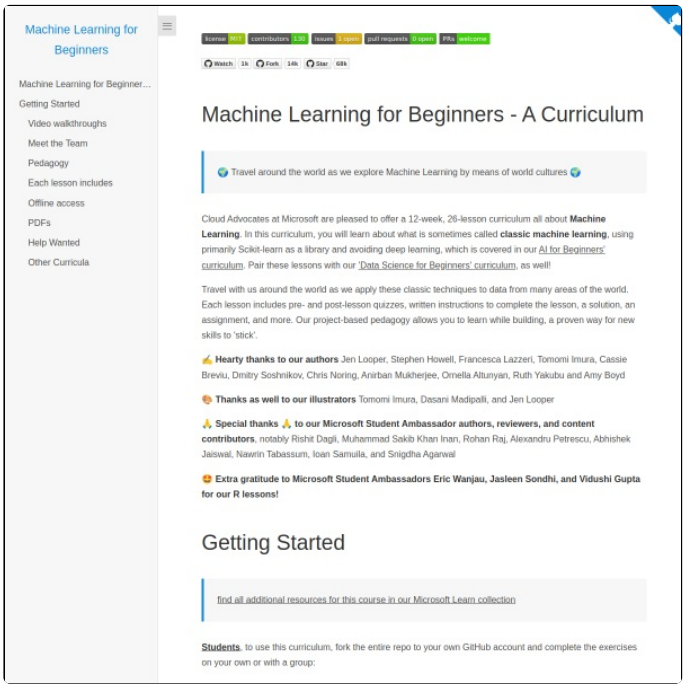
Microsoft - Artificial Intelligence for Beginners

The curriculum offers a comprehensive exploration of Artificial Intelligence, focusing on neural networks and deep learning using popular frameworks like TensorFlow and PyTorch. Additionally, the course covers less common AI methods such as genetic algorithms and multi-agent systems. Notably, the curriculum excludes business-oriented topics, classic machine learning, practical AI applications, specific ML cloud frameworks, conversational AI, and in-depth mathematics behind deep learning. Supplemental resources are available on Microsoft Learn and other recommended sources.

238 days ago

Website:

https://microsoft.github.io/AI-For-Beginners/



Microsoft - Machine Learning for Beginners

The Microsoft Cloud Advocates' 12-week, 26-lesson curriculum explores classic machine learning techniques using the Scikit-learn library, excluding deep learning concepts. This course can be supplemented with the 'Data Science for Beginners' curriculum. Featuring a project-based approach and global datasets, each lesson includes quizzes, instructions, solutions, and assignments to enhance the retention of new skills.

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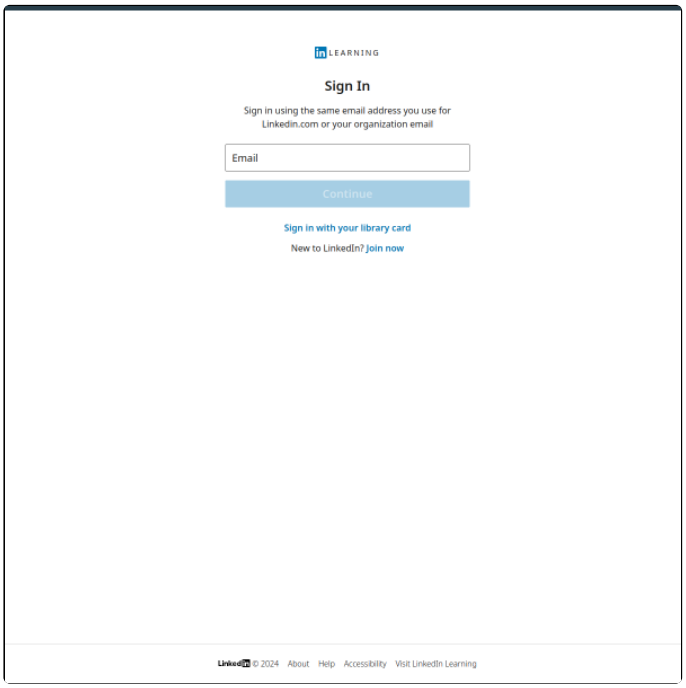
Website:

https://microsoft.github.io/ML-For-Beginners/#/



LinkedIn - Introduction o AI

This course provides non-technical professionals with an accessible introduction to key artificial intelligence concepts. By demystifying AI and its core ideas in machine learning and neural networks, learners will understand how AI can enhance their careers and lives. The course covers AI's history, algorithms, and techniques, aiming to equip project managers, product managers, directors, executives, and aspiring professionals with the knowledge to make informed decisions about applying AI in appropriate contexts.

Learning objectives include:

- Differentiating between symbolic systems and machine learning.
- Recognizing challenges in natural language processing.
- Identifying various types of machine learning.
- Emphasizing the importance of algorithms in machine learning.
- Determining suitable conditions for utilizing artificial intelligence.
- Comparing artificial intelligence and machine learning in business contexts.

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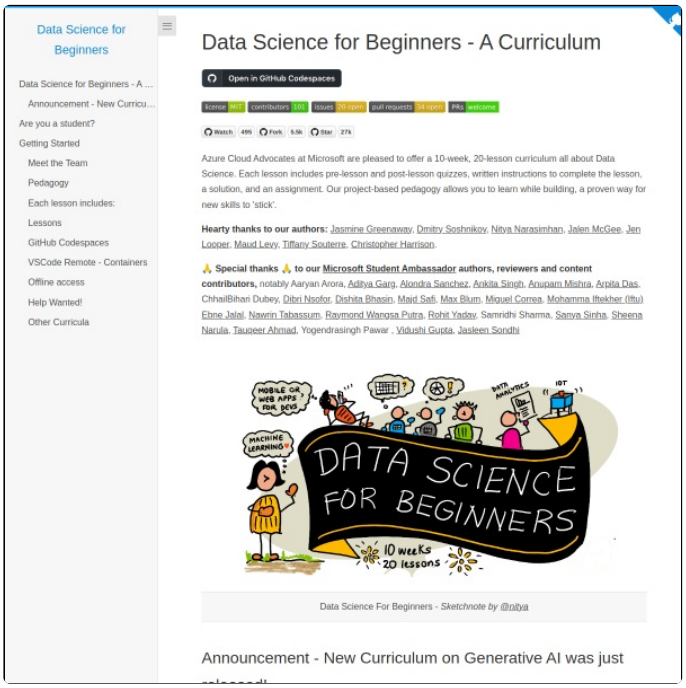
Website:

https://www.linkedin.com/learning-login/share?forceAccount=false&redirect=https%3A%2F%2Fwww.linkedin.com%2Flearning%2Fintroduction-to-artificial-intelligence%3Ftrk%3Dshare_ent_url%26shareId%3DGdZ8UUF1QRCv4zKmp1XwhA%253D%253D



Data Science for Beginners - A Curriculum

The Azure Cloud Advocates at Microsoft present a 10-week, 20-lesson Data Science curriculum focusing on project-based learning. Each lesson contains quizzes, instructions, solutions, and assignments to facilitate skill development through hands-on experience. The curriculum's pedagogy is designed to enhance knowledge retention by applying learned concepts to practical projects.
238 days ago

Website:

https://microsoft.github.io/Data-Science-For-Beginners/#/