



MASTER PROBLEM SOLVING WITH AI

PROGRAM OVERVIEW

Problem Solving in the Age of A.I.

Are you ready to unlock the power of problem-solving in the digital era? This exciting, hands-on course is designed for learners of all ages to explore how artificial intelligence (A.I.) can revolutionize the way we think, create, and innovate!

Why take this course?

- » Learn how to **break down complex problems** using cutting-edge A.I. tools.
- » Develop skills in **mind mapping, decision-making, and requirements writing**—essential for any future career.
- » Get hands-on with **electronics, robotics, and Python programming** to build real-world solutions.
- » Work as part of an **Agile SCRUM team**, just like professionals in top tech companies.

What You'll Learn:

- » **A.I. & Copyright** – Understand the legal and ethical impact of A.I.
- » **Electronics & Breadboarding** – Get hands-on with components and circuits.
- » **Robotics & Programming Basics** – Learn how machines think and move.
- » **Smart Web Searching** – Find what you need efficiently and effectively.
- » **A.I. in the Workplace** – Use A.I. to boost productivity and teamwork.
- » **Use Cases & Flowcharts** – Visually map out ideas and solutions.

- » **Writing Strong Requirements** – Learn to communicate ideas clearly.
- » **Decision-Making Forms** – Analyze results and make data-driven choices.
- » **A.I. Prompt Engineering** – Get the right answers by asking the right questions.
- » **Tree of Thought & Chain of Thought Methods** – Think like an expert problem solver.

Hands-On Project:

Students will put their new skills to the test by designing and programming a camera XY-axis gimbal, using Python 3.x and A.I. tools to bring their ideas to life!

By the end of this course, students will:

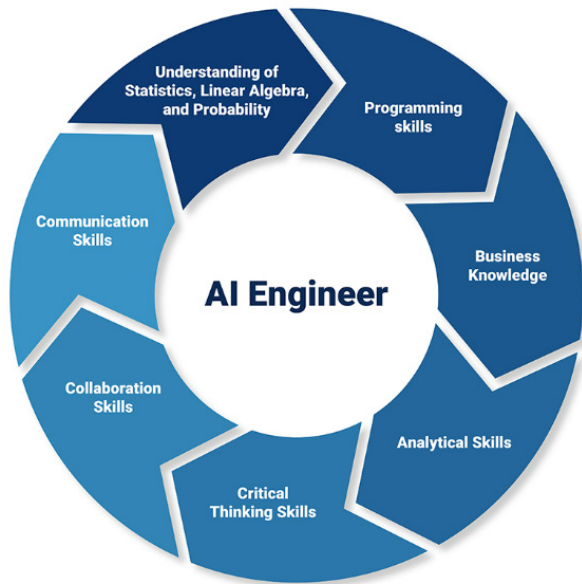
- » **Be confident problem solvers** who can tackle challenges with A.I. assistance.
- » Understand **teamwork, brainstorming, and mind mapping** for creative problem-solving.
- » Have real-world experience in **programming, decision-making, and project development**.

Ready to think smarter, work faster, and solve problems like never before? Join us and become the next generation of A.I.-powered innovators!



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ARTIFICIAL INTELLIGENCE PROGRAMS



Data Engineering using Python

This program is intended for Data Engineers and Data Scientists working towards building skills in AI and Machine Learning. Through hands-on labs and programming exercises this course helps students build a strong foundation in mastering the entire data pipeline - data preparation, standardization, transformation, data warehousing and analytics. The course covers the following topics:

- » Data Structure and Data Lifecycle
- » Operational Systems
- » Analytical Systems
- » Data Warehouse/Data Mart/Data Lakes
- » Users in the Data Platform
- » Dimensional Modeling
- » Types of Dimensions
- » Types of Measures
- » ETL Transformations
- » Pipeline Concepts and scheduling overview
- » Usage of Analytical systems for Data Analysis and Machine Learning

Data Engineering using Python will also prepare students for the PCED (Certified Entry Level Data Analyst using Python) exam offered by Python. This certification demonstrates an individual's hand-on skills in Python for data acquisition, data cleaning, and standardization techniques as well as foundational programming and database management. The course fee does not include the fee for the exam.

THE BENEFITS OF A.I. EDUCATION

A.I. is rapidly transforming all industries and all walks of life through disruption. Large language models such as ChatGPT and deep learning algorithms are taking on tasks that have been traditionally performed by knowledge workers. A.I. powered robots (humanoids) are increasingly taking on complex human-centric tasks that require dexterity and decision-making, whether it is driving cars or assembling electronic components. A.I. education is necessary both for creators who build A.I. models and solutions, as well as for users who can learn to solve problems faster or complete tasks quicker using A.I. tools.

A.I. PROGRAM PATHWAYS

There are multiple career pathways for A.I. students both within Information Technology (IT) as well as outside IT. The programs on this flyer provide foundational skills to IT pathways such as Data Scientist, Data Engineer, Business Intelligence Analyst and Machine Learning Engineer. Within the Advanced Manufacturing field, these programs can provide skills towards pursuing careers as a Robotics Technician, Process Automation Engineer, Machine Vision Technician and Operations Systems Specialist.

Note: many of these job roles do require additional training, certifications, and advanced degrees.

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