Learning Resource Network

RECOMMENDED READING LIST

LRN

INTERNATIONAL GCSE

ARTIFICIAL INTELLIGENCE [7923]

1. Foundations of Artificial Intelligence

Key Topics: Programming basics, logic, algorithms, data structures
Recommended Reading:

- **"Python Crash Course" by Eric Matthes**
  A beginner-friendly introduction to programming fundamentals used in AI tasks.
  Publisher: No Starch Press
- **"How to Think Like a Programmer" by Paul Vickers**
  Focuses on logical reasoning, problem-solving, and the fundamentals behind algorithms.
  Publisher: Cengage Learning

2. Machine Learning and Data Science

Key Topics: Data preparation, simple ML models, practical tools
Recommended Reading:

- **"AI and Machine Learning for Kids" by Dale Lane**
  An accessible introduction using tools like Teachable Machine and Scratch.
  Publisher: Manning Publications
- **"Make Your Own Neural Network" by Tariq Rashid**
  Simplified, step-by-step introduction to how ML models work.
  Publisher: CreateSpace Independent Publishing

3. Knowledge Representation and Reasoning

Key Topics: Rule-based systems, decision trees, logic
Recommended Reading:

- **"The Manga Guide to Logic" by Kera Tamura**
  Makes abstract logic and reasoning concepts tangible through engaging examples.
  Publisher: No Starch Press

4. Planning and Autonomous Systems

Key Topics: Agents, sensors, conditional logic
Recommended Reading:

- **"Coding Projects in Python" by DK Publishing**
  Offers engaging practical projects suitable for younger learners with structured plans.
  Publisher: DK
- **"Robotics: Discover the Science and Technology of the Future" by Kathy Ceceri**
  Explains AI planning through real-world applications.
  Publisher: Nomad Press

5. Ethics, Society and Philosophy of AI

Key Topics: Privacy, bias, impact on society
Recommended Reading:

- **"You Look Like a Thing and I Love You" by Janelle Shane**
  A humorous and insightful look at how AI makes decisions and the ethical implications.
  Publisher: Wildfire / Voracious
- **"Artificial Intelligence: What Everyone Needs to Know" by Jerry Kaplan**
  Discusses real-world implications of AI in a simple Q&A format.
  Publisher: Yale University Press

6. Building and Deploying AI Systems

Key Topics: Model training, testing, tools like Teachable Machine, project work
Recommended Reading:

- **"Machine Learning for Kids: A Project-Based Introduction to Artificial Intelligence" by Dale Lane**
  Covers model-building, testing, and ethics using practical tools.
  Publisher: No Starch Press
- **"AI for Everyone: An Introduction to the Basics" by Louis Bouchard**
  Offers an approachable and tool-agnostic perspective on building AI systems.
  Publisher: Independently published