Digital Resources for Artificial Intelligence Merit Badge Counselors

We collected digital resources as extra information for merit badge counselors. We expect Scouts to ask Scouly questions to work through the merit badge but also to work with their merit badge counselor.

Always check scouting.org for the most recent requirements.

1. **Key Concepts.** Define the following terms and share the meaning of each with your counselor: artificial intelligence (AI), artificial intelligence agents, automation, basic programming, bots, data, databases, digital workers, general AI, machine learning (ML), narrow AI, superintelligent AI, tasks, triggers, workflows, and variables.
   What is Artificial Intelligence?
   The Seven Types of AI

2. **Artificial Intelligence (AI) Basics.** Do the following and share what you learned with your counselor:
   (a) Identify 10 examples of how AI is currently used in everyday life.
   We're Already Using AI More Than We Realize
   How AI Can Improve Your Life
   Ten Everyday Machine Learning Examples
   AI in Daily Life: How Artificial Intelligence Makes Your Day Smarter

   (b) Identify 5 examples of how AI is currently used in the workplace.
   Using AI to Improve Workplace Safety
   Doctors Seek Help From AI in Medical Diagnosis
   How AI Is Changing Art for Creatives
   AI in Business Applications
   How People Are Using AI in the Workplace

   (c) Identify 5 examples of how AI can be used at school or in support of your education.
   AI Can Do Your Homework. Now What?

(d) Meet with your counselor and play 10 rounds of the "AI or Not?" game to determine if the presented scenario utilizes AI. Discuss your answers.
See the Note to Counselors if you can't get the game from Scoutly.

(e) Create a timeline with five key milestones in the development of artificial intelligence.
The Evolution of Artificial Intelligence: A Timeline

3. **Automation Basics.** Do the following and share what you learned with your counselor:

(a) Identify 10 examples of how automation is currently used in everyday life.
What Is IoT? Internet of Things
How Assistive Technology Supports Students With Disabilities
What I Learned From Automating Everything

(b) Identify 5 examples of how automation is currently used in the workplace.
What Is Industrial Automation?
How Autonomous Robots Are Changing Construction
RPA In 5 Minutes | What Is RPA - Robotic Process Automation?
Why Helsinki's Library Robots Aren't Important

(c) Identify 5 examples of how automation can be used at school or in support of your education.
The Impact of Smart Devices on Education Enhancing Learning in the Digital Age

(d) Explain how automation performs repetitive tasks without human intervention and how it reduces human error and optimizes resources.
Agentic AI Explained in Under 3 Minutes!

(e) Create a timeline with five significant milestones in automation development.
The Four Industrial Revolutions Explained in Under 4 Minutes

4. **Ethics in AI.** Do the following and share what you learned with your counselor:

(a) Research ethical concerns and responsible use in AI, including bias, privacy, and AI decision-making.
Ethics & AI: Equal Access and Algorithmic Bias
How Will AI Change the World?
How AI Uses Our Drinking Water
How Much Electricity Will AI Need?

(b) Meet with your counselor, play, and discuss 5 rounds of the "What Would You Do?" ethical decision-making scenarios.
   [10 Ethical Dilemmas AI Brings to Society](#)
   See the Note to Counselors if you can't get the game from Scoutly.

(c) Develop your own ethical guidelines for the use of AI.

(d) What is the Turing test?
   [The Turing Test: Can a Computer Pass for a Human?](#)
   [AI Passes Turing Test? ChatGPT 4.5 Fools 73% of Humans](#)

5. **Deepfakes.** Do the following and share what you learned with your counselor:
   (a) Explain what a deepfake is and how it can affect an individual.
      [Deepfakes](#)
      [How to Spot Fake AI Photos](#)
      [When AI Can Fake Reality, Who Can You Trust?](#)

   (b) Describe what actions to take if you or someone you know is impacted by a deepfake.
      [See page 35 Increasing Threats of Deepfake Identities DHS](#)
      [How to Protect Yourself Against Deepfakes](#)

6. **Developing AI Skills.** Do the following and share what you learned with your counselor:
   (a) Discuss the learning process for AI and its limitations.
      [Every Algorithm Watching You Started Like This](#)
      [Explain Machine Learning to a Kid](#)
      [How Does AI Learn?](#)

   (b) Identify 5 methods of how to effectively communicate with AI.
      [AI Literacy: How to Write Good Prompts](#)
      [The 8 Most Common AI Prompt Types You Should Know](#)

   (c) Explain the importance of prompt engineering when using AI to create better output.
      [Google's 9 Hour AI Prompt Engineering Course in 20 Minutes](#)
      [How to Use ChatGPT Effectively (and Avoid Common Mistakes)](#)

   (d) Demonstrate 3 examples of writing clear instructions for a school-related task.

7. **Practical Application.** Do ONE of the following:

   (a) With your counselor's approval, choose an artificial intelligence project based on your personal interest or a community need. Develop a plan outlining the project's objectives, data requirements, and potential ethical considerations. Implement the project utilizing appropriate artificial intelligence tools, languages, or platforms. Share your project with your counselor. Discuss the steps you followed to create the project and your experience during the process.

   (b) With your counselor's approval, design a short lesson plan on AI and teach it to your patrol of a group of Scouts. The lesson should include an AI-generated age-appropriate explanation of AI, examples of how AI is used in both everyday life as well as in the workplace, and an interactive demonstration of how Scouts could utilize AI to assist them with a school assignment, Scouting activity, or rank advancement. Share information on the development process and teaching experience with your counselor.

8. **Career Exploration.** Do ONE of the following:

   (a) Identify three career opportunities that would use skills and knowledge in artificial intelligence or automation. Pick one and research the training, education, certification requirements, experience, and expenses associated with entering the field. Research the prospects for employment, starting salary, advancement opportunities, and career goals associated with this career. Discuss what you learned with your counselor and whether you might be interested in this career.

   (b) Interview an artificial intelligence or automation professional. Learn about their day-to-day work, the challenges they face, and their vision for the future of artificial intelligence or automation. Inquire about training, education, certification requirements, experience, and expenses associated with entering the field. Share what you learned with your counselor.