# Artificial Intelligence

## Merit Badge Workbook

There is no merit badge pamphlet for this merit badge. Research is done doing Scoutly.
This Workbook can help you organize your thoughts as you prepare to meet with your merit badge counselor

**Merit Badge Counselors may not require the use of this or any similar workbooks.**
You still must satisfy your counselor that you can demonstrate each skill and have learned the information.
You should use the work space provided for each requirement to keep track of which requirements have been completed,
and to make notes for discussing the item with your counselor, not for providing full and complete answers.
If a requirement says that you must take an action using words such as "discuss", "show",
"tell", "explain", "demonstrate", "identify", etc, that is what you must do.
No one may add or subtract from the official requirements found on Scouting.org.

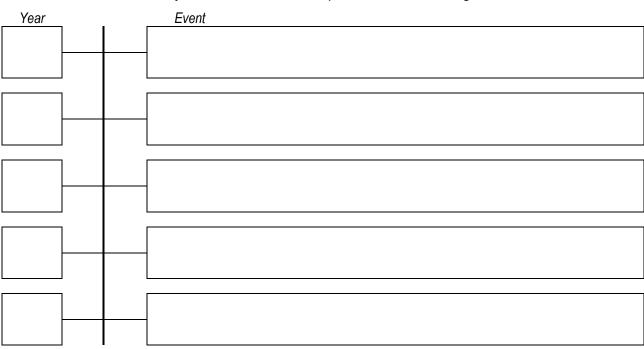The requirements were issued or revised in <u>2025</u>   •   This workbook was updated in <u>November 2025</u>.

Scout's Name:_____ Unit_____ Date Started _____

Counselor's Name: _____ Phone No.:_____ Email: _____

For this merit badge ask Scoutly the following questions.
Find Scoutly by clicking on the icon in the lower right corner of Scouting.org or BeAScout.org

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☐ **1. Key Concepts.** Define the following terms and share the meaning of each with your counselor:

| | |
|---|---|
| Artificial intelligence agents: | |
| Automation: | |
| Basic programing | |
| Bots: | |
| Data: | |
| Databases: | |
| Digital Workers: | |
| General AI: | |
| Machine learning (ML): | |

| Narrow AI: | |
|---|---|
| Superintelligent AI: | |
| Tasks: | |
| Triggers: | |
| Workflows: | |
| Variables: | |

☐ 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.

| 1. |
|---|
| 2. |
| 3. |
| 4. |
| 5. |
| 6. |
| 7. |
| 8. |
| 9. |
| 10. |

☐ b) Identify 5 examples of how AI is currently used in the workplace.

| 1. |
|---|
| 2. |
| 3. |
| 4. |
| 5. |

☐ c) Identify 5 examples of how AI can be used at school or in support of your education.

| 1. |
|---|
| 2. |
| 3. |
| 4. |
| 5. |

☐ 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.

| Notes |
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☐ e) Create a timeline with five key milestones in the development of artificial intelligence.

| *Year* | *Event* |
|---|---|
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☐ 2. **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.

| 1. |
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| 2. |
| 3. |
| 4. |
| 5. |
| 6. |
| 7. |
| 8. |
| 9; |
| 10. |

□ b) Identify 5 examples of how automation is currently used in the workplace.

| |
|---|
| 1. |
| 2. |
| 3. |
| 4. |
| 5. |

□ c) Identify 5 examples of how automation can be used at school or in support of your education.

| |
|---|
| 1. |
| 2. |
| 3. |
| 4. |
| 5. |

□ d) Explain how automation performs repetitive tasks without human intervention and how it reduces human error and optimizes resources.

| Notes |
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□ e) Create a timeline with five key milestones in the development of automation development.

| Year | Event |
|---|---|
| | |
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☐ 2. **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.

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☐ b) Meet with your counselor, play, and discuss 5 rounds of the "What Would You Do?" ethical decision-making scenarios.

| Notes: |
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☐ c) Develop your own ethical guidelines for the use of AI.

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☐ d) What is the Turing test?

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☐ 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.

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☐ (b) Identify 5 examples of how effectively communicate with AI.

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|---|
| 1. |
| 2. |
| 3. |
| 4. |
| 5. |

☐ (c) Explain the importance of prompt engineering when using AI to create better output.

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

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|---|
| 1. |
| 2. |
| 3. |

☐ 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.

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|---|---|
| Project's Objectives: | |
| Date Requirements; | |
| Potential ethical considerations; | |
| Tools used (e.g., AI, languages, platforms) | |

| | |
|---|---|
| Share project with counselor | |
| Steps followed to create the project | |
| 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.

Lesson:

Development process:

Teaching experience:

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

    ☐ (a) Identify three career opportunities that would use skills and knowledge in artificial intelligence or automation.

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|---|---|
| 1. | |
| 2. | |
| 3. | |

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.

Career: _____

| | |
|---|---|
| Training | |
| Education | |
| Certification Requirements | |
| Experience | |
| Expenses associated with entering field | |
| Prospects for employment | |
| Starting salary | |
| Advancement opportunities | |
| Career goals associated with this career | |

Discuss what you learned with your counselor and whether you might be interested in this career.

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| Notes: |
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□ (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

| | |
|---|---|
| Day-to day work | |
| Challenges they face | |
| Their vision for the future of AI or automation | |
| Training | |
| Education | |
| Certification requirements | |
| Experience | |
| Expenses associated with entire the field | |