

AI in Academic Research: Mastering GPT-4 and Claude 3.5 Sonnet An Intermediate to Advanced Workshop for Faculty, Students, and Library Staff

Elevate your research capabilities with cutting-edge AI tools! This intensive workshop delves into the advanced applications of GPT-4 and Claude 3.5 Sonnet in academic research. Designed for those already familiar with AI basics, this session will equip you with:

- Advanced prompt engineering techniques for complex research tasks
- Strategies for leveraging multimodal capabilities in data analysis
- Methods to integrate AI into your research workflow ethically and efficiently
- Hands-on experience with AI-assisted literature review, hypothesis generation, and experimental design

Join us to explore the frontier of AI in academia and revolutionize your research process. Suitable for researchers across all disciplines seeking to enhance their AI skills.

Prerequisites: Basic understanding of AI concepts and some experience with AI tools in research.

Title: Leveraging AI for Academic Research: GPT-4 and Claude 3.5 Sonnet Workshop Overview Handout.

Objectives:

- Understand the capabilities and limitations of GPT-4 and Claude 3.5 Sonnet in academic research
- Master effective prompt engineering techniques for research tasks
- Explore multimodal features and their applications in scientific inquiry
- Apply AI tools to various research processes, from ideation to analysis
- Develop an understanding of ethical considerations in AI-assisted research

Detailed Agenda:

1. Introduction (10 min)
 - Welcome and instructor introduction
 - Overview of GPT-4 and Claude 3.5 Sonnet capabilities
 - Relevance to academic research across disciplines
2. Prompt Engineering Basics (15 min)
 - Principles of effective prompts
 - Activity: Crafting research-specific prompts
 - Group discussion and prompt refinement
3. Advanced Prompt Techniques (20 min)
 - Chain-of-thought prompting explanation and demonstration
 - Few-shot learning techniques
 - Activity: Refining prompts for complex research tasks
4. Multimodal Capabilities (20 min)
 - Overview of image analysis in research contexts
 - Demonstration of data visualization interpretation
 - Activity: Analyzing research-related images or graphs
5. Research-Specific Applications (15 min)
 - Overview of key applications: writing, coding, experimental design
 - Activity: Rapid prototyping of research ideas using AI
6. Ethical Considerations and Limitations (10 min)
 - AI's role in academic integrity
 - Understanding and mitigating biases
 - Limitations of AI in research
 - Open discussion on field-specific ethical considerations
7. Q&A and Wrap-up (10 min)
 - Open floor for participant questions
 - Resources for further learning
 - Closing remarks

Key Takeaways:

- AI tools can significantly enhance research efficiency and creativity

- Effective use of AI requires skillful prompt engineering and critical evaluation
- Ethical considerations are paramount in AI-assisted research
- AI should augment, not replace, human expertise in academic inquiry

Next Steps:

- Experiment with AI tools in your research process
- Stay informed about AI developments in your field
- Engage with your institution's AI policies and resources

This expanded Workshop Overview Handout provides participants with a comprehensive understanding of what to expect from the workshop, including detailed objectives, a breakdown of each section, and key takeaways. It also encourages further engagement with AI tools in their research.

Title: Leveraging AI for Academic Research: GPT-4 and Claude 3.5 Sonnet Workshop

1. Introduction (10 minutes)

a. Welcome and Instructor Introduction (2 minutes)

- Briefly introduce yourself and your experience with AI in research
- Outline the workshop's objectives and structure

b. Overview of GPT-4 and Claude 3.5 Sonnet (5 minutes)

- GPT-4 capabilities: • Advanced language understanding and generation • Multimodal input (text and images) • Improved consistency and task performance
- Claude 3.5 Sonnet capabilities: • Enhanced reasoning and analytical skills • Robust ethical considerations • Specialized academic and scientific knowledge

c. Relevance to Academic Research (3 minutes)

- Efficiency: Accelerating literature reviews and data analysis
- Idea Generation: Brainstorming research questions and hypotheses
- Writing Assistance: Drafting and editing academic papers
- Code Generation: Assisting with data processing and analysis scripts
- Explain the importance of understanding these tools for modern research

2. Prompt Engineering Basics (15 minutes)

a. Principles of Effective Prompts (5 minutes)

- Clarity: Using precise language and specific instructions
- Context: Providing relevant background information
- Constraints: Specifying limitations or requirements
- Demonstrate examples of good vs. poor prompts in research contexts

b. Activity: Crafting Research-Specific Prompts (10 minutes)

- Individual Exercise (5 minutes): • Participants write prompts for three scenarios:
 1. Literature review on a specific topic in their field
 2. Generating hypotheses based on given research findings
 3. Designing an experiment to test a hypothesis
- Group Discussion (5 minutes): • Share 2-3 examples from volunteers • Analyze the effectiveness of the prompts • Provide constructive feedback and suggestions for improvement

3. Advanced Prompt Techniques (20 minutes)

a. Chain-of-Thought Prompting (7 minutes)

- Explanation: Guiding the AI through a step-by-step reasoning process
- Demonstration: Show an example related to analyzing research methodology
- Benefits: Improved accuracy and transparency in AI reasoning
- Example prompt: "Analyze the following research methodology step by step. For each step, explain its purpose and potential limitations: [research methodology]"

b. Few-Shot Learning (5 minutes)

- Explanation: Providing examples to guide AI responses
- Demonstration: Use a few-shot approach for generating research questions
- Benefits: Tailoring AI outputs to specific academic styles or requirements
- Example prompt: "Generate three research questions in the style of the following examples: [2-3 example questions]. Now, generate three new research questions about [topic]."

c. Activity: Refining Prompts for Complex Research Tasks (8 minutes)

- Small Group Exercise (5 minutes): • Divide participants into groups of 3-4 • Each group works on refining prompts for:
 1. Analyzing a dataset and suggesting statistical approaches
 2. Critiquing a research methodology
- Sharing and Discussion (3 minutes): • Groups present their refined prompts • Discuss the reasoning behind their prompt structures • Highlight effective uses of chain-of-thought and few-shot techniques

This concludes the first half of the workshop, covering the introduction and the first two main sections on prompt engineering. The activities are designed to give participants hands-on experience with crafting effective prompts for research-related tasks.

Detailed Curriculum: Part 2: This second half of the workshop focuses on practical applications, ethical considerations, and hands-on experience with multimodal capabilities. The activities are designed to give participants a taste of how these AI tools can be integrated into various aspects of their research

4. Multimodal Capabilities (20 minutes)

a. Overview of Image Analysis in Research Contexts (5 minutes)

- Explain GPT-4's ability to analyze images alongside text
- Discuss potential applications in research: • Interpreting scientific figures and graphs • Analyzing microscopy or medical imaging data • Examining archaeological or historical artifacts

b. Demonstration of Data Visualization Interpretation (5 minutes)

- Show a complex scientific figure or graph
- Walk through a sample prompt to analyze the image
- Demonstrate GPT-4's response and interpretation

c. Activity: Analyzing Research-Related Images or Graphs (10 minutes)

- Individual Exercise (7 minutes): • Provide participants with 2-3 complex scientific figures or graphs • Instruct them to use GPT-4 to:
 1. Describe the main elements of the figure
 2. Interpret the data presented
 3. Suggest potential implications or follow-up research questions
- Group Discussion (3 minutes): • Volunteers share interesting findings or interpretations • Discuss the accuracy and usefulness of AI interpretations • Address any challenges encountered during the activity

5. Research-Specific Applications (15 minutes)

a. Overview of Key Applications (5 minutes)

- Writing Assistance: • Drafting abstracts, introductions, or conclusions • Generating outlines for research papers • Assistance with literature reviews
- Code Generation and Debugging: • Writing and optimizing data analysis scripts • Translating algorithms between programming languages
- Experimental Design Optimization: • Suggesting improvements to methodology • Identifying potential confounding variables

b. Activity: Rapid Prototyping of Research Ideas (10 minutes)

- Individual Exercise (7 minutes): • Participants choose a research concept in their field • Use GPT-4 or Claude 3.5 Sonnet to:
 1. Expand the concept into a brief research proposal
 2. Generate potential research questions
 3. Outline a methodology to investigate the concept
- Sharing and Discussion (3 minutes): • Volunteers present their AI-assisted research prototypes • Discuss how AI enhanced or accelerated the ideation process • Address any limitations or areas where human expertise was crucial

6. Ethical Considerations and Limitations (10 minutes)

a. AI's Role in Academic Integrity (3 minutes)

- Discuss proper citation of AI-assisted work
- Address concerns about plagiarism and originality
- Emphasize the importance of transparency in AI use

b. Understanding and Mitigating Biases (3 minutes)

- Explain potential biases in AI-generated content
- Discuss strategies for critical evaluation of AI outputs
- Emphasize the need for human oversight and verification

c. Limitations of AI in Research (2 minutes)

- Discuss the current limitations of GPT-4 and Claude 3.5 Sonnet
- Highlight areas where human expertise remains crucial
- Encourage a balanced approach to AI integration in research

d. Open Discussion (2 minutes)

- Briefly discuss ethical considerations specific to participants' fields
- Address any concerns raised by participants

7. Q&A and Wrap-up (10 minutes)

a. Open Floor for Questions (7 minutes)

- Address participant questions about: • Specific applications in their research areas • Technical aspects of using GPT-4 and Claude 3.5 Sonnet • Institutional policies on AI use in research

b. Resources for Further Learning (2 minutes)

- Provide a handout with: • Online tutorials and courses on AI in research • Relevant academic papers and articles • University-specific resources and policies
- Briefly highlight key resources

c. Closing Remarks (1 minute)

Summarize key takeaways

Encourage continued exploration and responsible use of AI in research processes.

2. Prompt Engineering Cheat Sheet

Effective Prompt Structure:

1. Context:
 - Provide relevant background information
 - Specify your field of study or research area
 - Mention any key theories or methodologies relevant to your query
2. Instruction:
 - Clearly state the task or question
 - Use action verbs (e.g., analyze, summarize, compare, evaluate)
 - Be specific about what you want the AI to do
3. Format:
 - Specify desired output format (e.g., bullet points, paragraph, table)
 - Indicate preferred length or depth of response
 - Request specific sections if applicable (e.g., introduction, methodology, conclusion)
4. Examples:
 - Include sample inputs and outputs if needed
 - Provide examples of the style or approach you're looking for

Tips for Crafting Effective Prompts:

1. Be specific and concise:
 - Use precise language to avoid ambiguity
 - Break down complex tasks into smaller, manageable steps
2. Use domain-specific terminology:
 - Incorporate relevant academic or scientific terms
 - Define any uncommon terms or acronyms
3. Provide constraints:
 - Specify any limitations or requirements (e.g., time period, geographic focus)
 - Mention preferred sources or methodologies if applicable
4. Request explanations:
 - Ask the AI to explain its reasoning or provide justifications
 - This helps in verifying the AI's understanding and logic
5. Iterate and refine:
 - If the initial response isn't satisfactory, refine your prompt
 - Try different phrasings or approaches to get better results

Advanced Techniques:

1. Chain-of-thought prompting:
 - Ask the AI to walk through its reasoning step-by-step
 - Example: "Analyze this research methodology. For each step, explain its purpose and potential limitations."
2. Few-shot learning:

- Provide a few examples before the main task
 - Example: "Here are two examples of well-structured research questions in biology: [Example 1], [Example 2]. Now, generate three research questions about climate change impact on marine ecosystems."
3. Role prompting:
 - Ask the AI to assume a specific role or perspective
 - Example: "As an expert in quantum physics, explain the implications of this recent experiment: [experiment details]"
 4. Comparative analysis:
 - Request the AI to compare and contrast different viewpoints or methodologies
 - Example: "Compare the strengths and weaknesses of qualitative vs. quantitative research methods for studying social media behavior."
 5. Hypothetical scenarios:
 - Present a hypothetical situation to explore potential outcomes or approaches
 - Example: "If a new gene editing technique were discovered that could eliminate genetic diseases, what ethical considerations would researchers need to address?"

Remember:

- Always critically evaluate AI-generated responses
- Use AI as a tool to augment, not replace, your expertise
- Be prepared to provide additional context or clarification if needed

This expanded Prompt Engineering Cheat Sheet provides researchers with a comprehensive guide to crafting effective prompts for academic tasks. It covers the basic structure of prompts, offers specific tips for improvement, and introduces advanced techniques that can enhance the quality and relevance of AI-generated responses in research contexts.

3. Research Application Ideas

This handout provides examples of how to use GPT-4 and Claude 3.5 Sonnet for various research tasks. Each section includes a brief explanation, sample prompts, and tips for effective use.

1. Literature Review Explanation: AI can help summarize recent papers, identify key themes, and highlight gaps in research. Sample prompts:
 - "Summarize the main findings of papers published in the last 5 years on [specific topic] in [field of study]. Highlight any conflicting results or gaps in the research."
 - "Create an annotated bibliography of 10 key papers on [topic] from the past decade. For each paper, provide a brief summary and its significance to the field." Tip: Be specific about the time frame, number of papers, and type of information you're seeking.
2. Hypothesis Generation Explanation: AI can suggest potential hypotheses based on existing research or data. Sample prompts:
 - "Based on these findings [list key points], suggest 3 potential hypotheses for future research in [field]."
 - "Given this unexpected result in our experiment [describe result], propose 5 possible explanations and corresponding hypotheses we could test." Tip: Provide as much context as possible about your research area and current findings.
3. Experimental Design Explanation: AI can help brainstorm methodologies and identify potential issues in research design. Sample prompts:
 - "Outline a methodology to test the following hypothesis: [state hypothesis]. Include suggestions for control groups and potential confounding variables."
 - "Critique this experimental design [describe design] and suggest improvements to increase its validity and reliability." Tip: Be clear about your research question and any constraints (e.g., time, resources) you have.
4. Data Analysis Explanation: AI can suggest statistical approaches and help interpret results. Sample prompts:
 - "Recommend statistical approaches for analyzing this dataset: [describe dataset characteristics, variables, and research question]."
 - "Interpret these statistical results [provide results] in the context of our research question about [topic]. What do these findings suggest?" Tip: Provide detailed information about your data and research context for more accurate suggestions.
5. Writing Assistance Explanation: AI can help with drafting, editing, and structuring academic writing. Sample prompts:
 - "Draft an abstract for a paper on [research topic], including the background, methodology, key findings, and implications. The abstract should be no more than 250 words."
 - "Suggest a structure for the discussion section of my paper, which aims to [describe main argument or findings]." Tip: Use AI-generated content as a starting point, always adding your own critical analysis and voice.

6. Code Generation and Debugging Explanation: AI can assist with writing and optimizing code for data analysis. Sample prompts:
 - "Write a Python function to [describe the task, e.g., 'clean and preprocess this dataset']."
 - "Debug this R code for [specific analysis]. The current error is [describe error]."
Tip: Always verify and test AI-generated code before using it in your research.
7. Grant Proposal Development Explanation: AI can help brainstorm ideas and structure grant proposals. Sample prompts:
 - "Suggest an outline for a grant proposal on [research topic], including key sections such as background, objectives, methodology, and expected outcomes."
 - "Generate 5 potential broader impacts for my research project on [topic], suitable for inclusion in a grant proposal." Tip: Use AI suggestions as a starting point, tailoring them to specific grant requirements.
8. Interdisciplinary Connections Explanation: AI can help identify connections between different fields of study. Sample prompts:
 - "Identify potential applications of [concept from your field] in [different field]."
 - "Suggest ways to integrate methods from [Field A] into research on [Topic B in your field]." Tip: Provide context about both fields to get more relevant and insightful connections.

Remember:

- Always critically evaluate and verify AI-generated content
- Use AI as a tool to enhance your research process, not as a replacement for your expertise
- Be aware of your institution's policies on AI use in research

This expanded Research Application Ideas handout provides a comprehensive guide to using AI tools across various aspects of the research process. It offers concrete examples and tips for each application, helping researchers understand how to effectively integrate AI into their work.

4. Ethical Considerations Handout

Using AI in Academic Research: Ethical Guidelines and Best Practices

1. Verification and Fact-Checking
 - Always verify AI-generated information with authoritative sources
 - Cross-reference AI suggestions with peer-reviewed literature
 - Use AI as a starting point for further investigation, not as a final authority Best Practice: Maintain a list of trusted sources in your field for verification
2. Attribution and Transparency
 - Cite AI tools when used in research processes
 - Be transparent about the extent of AI assistance in your work
 - Clearly distinguish between AI-generated content and your original contributions Best Practice: Include a statement in your methodology section describing how and where AI tools were used
3. Bias Awareness and Mitigation
 - Be aware of potential biases in AI responses
 - Consider the training data and potential limitations of the AI model
 - Actively seek diverse perspectives to counteract potential AI biases Best Practice: Regularly update your knowledge about biases in AI systems and their potential impact on your field
4. Data Privacy and Confidentiality
 - Do not input sensitive or confidential research data into public AI tools
 - Be cautious about sharing identifying information or proprietary research details
 - Understand the data retention policies of the AI tools you use Best Practice: Use institutional AI resources when dealing with sensitive data, or consult with your IT department for secure options
5. Intellectual Property Considerations
 - Understand how using AI might affect the novelty or originality of your work
 - Be aware of potential copyright issues when using AI for text generation
 - Consult your institution's policies on AI-assisted work and intellectual property Best Practice: Keep detailed records of your research process, clearly delineating AI contributions
6. Maintaining Scientific Rigor
 - Use AI to augment, not replace, human expertise and critical thinking
 - Ensure that key scientific decisions are made by qualified researchers, not AI
 - Maintain skepticism and always apply scientific scrutiny to AI-generated content Best Practice: Establish clear guidelines in your research team for when and how AI tools can be used
7. Ethical Review and Compliance
 - Consult your Institutional Review Board (IRB) about AI use in human subjects research
 - Stay informed about evolving regulations and guidelines on AI use in your field
 - Consider potential ethical implications of AI-assisted research on study participants or society Best Practice: Include AI use considerations in your ethics review submissions

8. Equity and Accessibility
 - Be mindful that not all researchers have equal access to advanced AI tools
 - Consider how AI use might affect collaboration with researchers from different backgrounds or resource levels
 - Strive to make your AI-assisted research methods transparent and reproducible
Best Practice: Share non-proprietary prompts or methodologies used with AI tools in your publications
9. Continuous Learning and Adaptation
 - Stay informed about advancements in AI and their implications for your field
 - Regularly reassess and update your ethical guidelines for AI use
 - Engage in discussions with colleagues about ethical AI use in research
Best Practice: Attend workshops or seminars on AI ethics in academia
10. Responsibility and Accountability
 - Take full responsibility for all aspects of your research, including AI-assisted components
 - Be prepared to explain and justify your use of AI in academic contexts
 - Develop protocols for addressing errors or issues arising from AI use in your research
Best Practice: Establish a review process within your research team for AI-generated content

Remember:

- Ethical considerations in AI use are evolving rapidly; stay informed and adaptable
- When in doubt, consult with ethics experts, senior colleagues, or institutional authorities
- Prioritize the integrity and quality of your research over convenience or efficiency gained from AI use

This expanded Ethical Considerations Handout provides a comprehensive overview of the key ethical issues researchers should consider when using AI tools in their work. It offers specific best practices for each consideration, helping researchers navigate the complex ethical landscape of AI-assisted academic research

5. Online Resources List

This comprehensive list provides valuable resources for further learning about AI in academic research, focusing on GPT-4 and Claude 3.5 Sonnet applications. (Some of these will need to be found online or accessed through the holdings of the universities academic library)

AI in Academic Research:

1. "Artificial Intelligence in Scientific Research" (Nature) URL: [Insert actual URL]
Description: An in-depth exploration of AI's impact on various scientific disciplines, including case studies and future projections.
2. "The Impact of GPT on Academic Writing" (Inside Higher Ed) URL: [Insert actual URL]
Description: Analysis of how large language models are changing academic writing practices, with insights from researchers and ethicists.
3. "AI Tools for Researchers" (MIT Technology Review) URL: [Insert actual URL]
Description: A curated list of AI tools specifically designed for academic research, with user reviews and use cases.
4. "Emerging AI Technologies in Scientific Discovery" (Science Magazine) URL: [Insert actual URL]
Description: Overview of cutting-edge AI applications in various scientific fields, including potential future developments.

Prompt Engineering:

1. "Prompt Engineering Guide" (Anthropic) URL: [Insert actual URL] Description: Comprehensive guide to crafting effective prompts for Claude and other AI models, with a focus on academic applications.
2. "Best Practices for Prompt Design" (OpenAI) URL: [Insert actual URL] Description: Detailed strategies for optimizing prompts for GPT-4, including examples relevant to research tasks.
3. "Advanced Prompt Engineering Techniques" (Stanford AI Lab) URL: [Insert actual URL] Description: Academic paper discussing state-of-the-art prompt engineering methods, including chain-of-thought and few-shot learning.
4. "Prompt Engineering for Scientific Research" (arXiv) URL: [Insert actual URL] Description: Preprint discussing specialized prompt engineering techniques for scientific inquiry and data analysis.

Ethical Use of AI in Academia:

1. "AI Ethics Guidelines for Researchers" (MIT) URL: [Insert actual URL] Description: Comprehensive framework for ethical considerations in AI-assisted research, developed by leading AI ethicists.
2. "Responsible AI Practices" (Google AI) URL: [Insert actual URL] Description: Google's guidelines for ethical AI development and use, with sections relevant to academic research.

3. "AI and Research Integrity" (Council on Publication Ethics) URL: [Insert actual URL] Description: Discussion of how AI impacts research integrity, with guidelines for ethical use in publishing.
4. "Bias in AI Systems: Implications for Scientific Research" (Nature Machine Intelligence) URL: [Insert actual URL] Description: In-depth analysis of potential biases in AI tools and their impact on research outcomes.

AI Models and Tools:

1. OpenAI (GPT-4) URL: <https://www.openai.com/> Description: Official site for accessing GPT-4 and related documentation.
2. Anthropic (Claude) URL: <https://www.anthropic.com/> Description: Information about Claude 3.5 Sonnet and its capabilities.
3. "Comparing GPT-4 and Claude 3.5 Sonnet for Academic Tasks" (AI in Academia Blog) URL: [Insert actual URL] Description: Detailed comparison of the two models' performance in various research-related tasks.
4. "Integration of AI Models in Research Workflows" (Digital Science) URL: [Insert actual URL] Description: Guide to effectively incorporating AI tools into existing research processes.

Courses and Tutorials:

1. "AI for Scientific Research" (Coursera) URL: [Insert actual URL] Description: Online course covering the basics of AI application in various scientific disciplines.
2. "Prompt Engineering for Academics" (edX) URL: [Insert actual URL] Description: Specialized course on crafting effective prompts for research tasks.
3. "Ethical AI in Research" (FutureLearn) URL: [Insert actual URL] Description: Course focusing on ethical considerations and best practices for AI use in academic contexts.

University-Specific Resources:

1. [Your University]'s AI Use Policy URL: [Insert your university's specific URL] Description: Official guidelines and policies regarding AI use in research and academic work at your institution.
2. AI Tools Workshop Series URL: [Insert specific URL if available] Description: Information about ongoing workshops and training sessions on AI tools at your university.
3. Research Ethics Board AI Guidelines URL: [Insert specific URL if available] Description: Specific guidance from your university's research ethics board on AI use in research projects.

Remember to regularly check these resources, as the field of AI in academic research is rapidly evolving. Always verify the credibility of sources and cross-reference information, especially regarding ethical guidelines and best practices.

6. Workshop Feedback Form (Online)

7. Title: AI in Academic Research Workshop Feedback

Introduction: Thank you for participating in our workshop on leveraging GPT-4 and Claude 3.5 Sonnet for academic research. Your feedback is invaluable in helping us improve future sessions and tailor our content to researchers' needs.

Part 1: Overall Experience

1. How would you rate the overall usefulness of this workshop for your research? (1 - Not at all useful, 5 - Extremely useful) 1 2 3 4 5
2. How well did the workshop meet your expectations? (1 - Did not meet expectations, 5 - Exceeded expectations) 1 2 3 4 5
3. How would you rate the balance between theoretical content and practical activities? (1 - Too theoretical, 3 - Well balanced, 5 - Too practical) 1 2 3 4 5

Part 2: Content Evaluation

4. Which section(s) did you find most valuable? (Select all that apply) Introduction to GPT-4 and Claude 3.5 Sonnet Prompt Engineering Basics Advanced Prompt Techniques Multimodal Capabilities Research-Specific Applications Ethical Considerations and Limitations
5. Please explain why you found these sections particularly valuable: [Text box for open-ended response]
6. Were there any topics you feel were not covered adequately or that you would like to see in future workshops? [Text box for open-ended response]

Part 3: Learning Outcomes

7. How confident do you feel in using AI tools for your research after this workshop? (1 - Not at all confident, 5 - Very confident) 1 2 3 4 5
8. Which of the following AI applications do you think you'll use in your research? (Select all that apply) Literature review assistance Hypothesis generation Experimental design Data analysis support Writing assistance Code generation/debugging Other (please specify): [Text box]
9. How well do you understand the ethical considerations of using AI in research after this workshop? (1 - Poor understanding, 5 - Excellent understanding) 1 2 3 4 5

Part 4: Workshop Delivery

10. How would you rate the clarity of the instructor's explanations? (1 - Not at all clear, 5 - Very clear) 1 2 3 4 5
11. How engaging were the hands-on activities? (1 - Not at all engaging, 5 - Very engaging) 1 2 3 4 5

12. Was the pace of the workshop appropriate? (1 - Too slow, 3 - Just right, 5 - Too fast) 1
2 3 4 5

Part 5: Future Improvements

13. What aspects of the workshop could be improved? [Text box for open-ended response]
14. What additional AI-related topics would you be interested in for future workshops? [Text box for open-ended response]
15. Would you be interested in a more advanced follow-up workshop? Yes No
Maybe

Part 6: Demographics (Optional)

16. What is your primary field of study? [Drop-down menu with broad categories]
17. What is your current academic role? Undergraduate student Graduate student
Postdoctoral researcher Faculty member Research staff Other (please specify):
[Text box]
18. How would you rate your prior experience with AI tools before this workshop? (1 - No
experience, 5 - Extensive experience) 1 2 3 4 5

Final Thoughts

19. Any additional comments or suggestions? [Text box for open-ended response]

Thank you for your feedback! Your input will help us continually improve our AI workshops for the academic community.

This comprehensive feedback form covers various aspects of the workshop, including content evaluation, learning outcomes, delivery, and suggestions for improvement. It also includes optional demographic questions to help tailor future workshops to specific audience needs. The mix of quantitative ratings and qualitative open-ended questions provides a well-rounded view of participants' experiences and needs.