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Exploring Artificial Intelligence: A Collaborative Small Group Analysis and Application

EllaMarie Powell
University of North Dakota, ellamarie.powell@und.edu

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Group Work Assignment Timeline

Group Members :

Project Phases

Module 1-2: Topic Selection and Research (9- 22 Sep)

Choose a specific area of AI (e.g., healthcare, finance, education, ethics, etc.).
Begin gathering information and resources related to the chosen topic.

Module 3-4: Detailed Research and Outline Development (23 Sep- 6 Oct)

Conduct in-depth research on the topic.
Develop an outline for the project, including key points, arguments, and evidence.

Module 5-6: Drafting and Content Creation (7-20 Oct)

Start drafting the project report or presentation.
Create supporting content such as charts, graphs, or infographics.

Module 7-8: Review and Revisions (21 Oct- 3 Nov)

Review the content as a group, providing feedback and making necessary revisions.
Ensure that the project meets all academic standards and guidelines.

Module 9-10: Finalization and Practice (4-17 Nov)

Finalize the content and presentation.
Practice the presentation as a group, focusing on timing, clarity, and engagement.

Module 11: Video Presentations (Final Presentation Recording due 24 Nov)

Record a video presentation with team introductions and explanations of each member's contribution.

Submit the video as the final group project deliverable.

Final Presenstations begin 2 December

Overview:

Project Objectives:

- To explore the applications, ethical considerations, and future potential of Artificial Intelligence (AI) in various sectors.
- To develop a comprehensive understanding of AI technologies and their impact on society, economy, and daily life.
- To collaborate effectively as a group, enhancing teamwork, communication, and presentation skills.

Deliverables

- Research Report/Presentation: A comprehensive report or slide presentation covering the selected AI topic.
- Video Presentation: A recorded presentation of the group's findings, including introductions and individual contributions.
- Peer Review: Each member will provide feedback on the contributions and performance of their peers.

Group Work Assignment
Module 1: Group Formation

Group Members :

Activities:

- Introduction: The overview of the AI-Focused Small Group Project includes objectives and requirements.
- Group Formation: Organize students into groups of 3-4.
- Brainstorming Session: Groups brainstorm and discuss potential topics.
- Topic Selection: Groups select a topic and submit it for approval.

Objectives:

- Form groups and discuss the project scope.
- Brainstorm potential topics related to AI and public speaking.
- Submit chosen topics for approval.

Deliverable:

Submit the selected topic and a brief description via BlackBoard

Group Work Assignment Topics

- AI and Social Media Trends: Influencing User Behavior and Content Creation- Investigate how AI algorithms shape social media content, influence user behavior, and contribute to trends. Analyze the impact of AI on user engagement and platform dynamics.
- AI in Gaming: Enhancing Player Experiences and Game Design- Explore how AI is used in video game development to create more realistic and engaging gameplay experiences. Discuss the role of AI in game design, character behavior, and procedural content generation.
- AI and Mental Health: Tools for Well-being and Support- Examine AI applications in mental health, including chatbots, virtual therapists, and mood monitoring. Discuss how AI can provide support and its potential impact on mental health services.
- AI and Music: From Composition to Personalized Playlists- Analyze how AI is used in music composition, recommendation systems, and playlist curation. Discuss the implications for creativity and the music industry.
- AI in Fashion: Trends, Personalization, and Sustainability- Investigate the role of AI in fashion, including trend prediction, personalized shopping experiences, and sustainable practices. Discuss how AI is reshaping the fashion industry.
- AI in Sports: Enhancing Performance and Fan Engagement- Explore how AI is used to analyze sports performance, optimize training, and enhance fan experiences. Discuss the impact of AI on coaching, player analytics, and game strategies.
- AI and Education: Innovative Tools for Learning and Teaching- Examine AI-driven educational tools, such as adaptive learning platforms, virtual tutors, and academic support systems. Discuss the benefits and challenges of integrating AI into education.
- AI and Environmental Awareness: Apps and Tools for Sustainability- Analyze AI-powered applications designed to promote environmental awareness and sustainability, such as eco-friendly apps and waste management solutions. Discuss their effectiveness and potential for widespread adoption.
- AI in Entertainment: Personalized Content and Virtual Experiences- Explore how AI is used to create personalized entertainment experiences, including virtual reality (VR), augmented reality (AR), and content recommendations. Discuss the impact on consumer preferences and industry innovation.
- AI and Campus Life: Enhancing Student Experiences- Investigate how AI can improve campus life, including smart campus systems, student engagement platforms, and campus safety. Discuss potential applications and benefits for college students.
- AI and Career Development: Tools for Job Search and Professional Growth- Explore AI tools that assist with career development, such as job matching algorithms, resume optimization, and career coaching. Discuss how AI can support students in their job search and professional growth.
- AI and Social Justice: Addressing Inequality and Advocacy- Examine how AI is used in social justice initiatives, including data analysis for advocacy, bias detection, and policy recommendations. Discuss the potential for AI to support social justice efforts and address inequality.
- AI and Health Fitness: Personalized Training and Wellness- Investigate AI applications in health and fitness, including personalized workout plans, nutrition advice, and wellness tracking. Discuss the impact of AI on personal health and fitness routines.
- AI and Creative Writing: Enhancing Literary Creativity- Analyze how AI tools assist in creative writing, including story generation, plot development, and language enhancement. Discuss the implications for authors and the creative writing process.
- AI and Virtual Events: Revolutionizing Online Gatherings- Explore the role of AI in enhancing virtual events, such as webinars, conferences, and social gatherings. Discuss how AI can improve engagement, networking, and event experiences.

Group Work Assignment
Module 1: Deliverable Example

The Role of AI in Healthcare: Transforming Patient Care

Topic Overview: Artificial Intelligence (AI) is revolutionizing the healthcare industry by enhancing diagnostic accuracy, personalizing patient treatment plans, and optimizing hospital operations. This topic will explore how AI is implemented in various healthcare aspects, including medical imaging, predictive analytics, and patient management systems. The group will examine the benefits and challenges associated with AI integration in healthcare and discuss its potential to improve patient outcomes while addressing ethical concerns related to data privacy and decision-making.

Key Questions:

- How is AI currently used in medical diagnostics, and what are the results?
- In what ways can AI improve personalized medicine and patient care?
- What are the ethical implications of using AI in healthcare, particularly concerning patient data and autonomy?
- What are the potential risks and challenges associated with AI in healthcare, and how can they be mitigated?

Research Focus: The group will investigate case studies of AI successfully implemented in healthcare settings, analyze statistical data on AI-driven improvements in patient care, and review academic literature on the ethical implications of AI in medicine. The final presentation will provide a comprehensive overview of the current state of AI in healthcare and offer insights into its future potential.

Group Work Assignment Module 2: Topic Refinement

Group Members :

Objectives:

- Refine your topic based on feedback.
- Begin gathering preliminary research using at least four credible sources.

Deliverable:

- Research Collection: Start gathering preliminary research on the selected topic. Each group member should locate and review at least two credible resources. These resources should be diverse and provide a broad perspective on the topic.
- Submit Resources List: Provide a list of the resources you have found, including a brief description of each and why it was chosen. This will be submitted to the instructor for initial review and feedback.

Activities:

- Refinement: Adjust and focus your topic based on instructor feedback.
- Research Planning: Develop a research plan, defining roles and identifying key sources.
- Understanding Credibility: Review what makes a resource credible and ensure your sources meet these criteria.

Research Tips:

- Checking the author's credentials and expertise.
- Evaluating the publication or website for credibility.
- Ensuring the information is current and relevant.
- Cross-referencing information with other credible sources.

Group Work Assignment Module 2: Deliverable Example

Resource List and Description: The Role of AI in Healthcare: Transforming Patient Care

**1. Journal Article: "Artificial Intelligence in Healthcare: Past, Present, and Future"

- Authors: J. C. Smith, M. L. Johnson
- Source: Journal of Medical Technology, 2023.
- Description: This peer-reviewed article provides an in-depth analysis of the evolution of AI in healthcare, from its early applications to the latest advancements. The authors discuss key technologies such as machine learning, natural language processing, and computer vision and their applications in diagnostics, treatment planning, and patient management. The article also highlights the challenges and ethical considerations surrounding AI adoption in healthcare.

Group Work Assignment Module 3: In-Depth Research

Group Members :

Objectives:

- Conduct thorough research on your topic.
- Begin analyzing your findings to identify key points.

Activities:

- Research Time: Dive deeper into your research, focusing on gathering detailed information.
- Analysis Session: Start analyzing your research to identify the most relevant information for your presentation.

Deliverable:

- Compile a summary of key research findings and submit it for review

Group Work Assignment
Module 3: Deliverable Example

Summary of Key Research Findings: The Role of AI in Healthcare: Transforming Patient Care

1. Enhanced Diagnostic Accuracy
   - Key Finding: AI has significantly improved diagnostic accuracy across various medical fields, particularly in radiology and pathology. Machine learning algorithms, especially those utilizing deep learning, can analyze medical images with a precision that rivals, and in some cases surpasses, human experts.
   - Example: In radiology, AI-driven tools have been shown to reduce diagnostic errors by up to 30%, particularly in detecting early-stage cancers such as breast cancer and lung nodules .
2. Personalized Medicine and Treatment Plans
   - Key Finding: AI is at the forefront of personalized medicine, enabling the development of tailored treatment plans based on an individual's genetic makeup, lifestyle, and other personal data. AI systems can process vast amounts of data to predict how patients might respond to different treatments, leading to more effective and individualized care.
   - Example: AI models have been used to predict patient responses to chemotherapy, allowing oncologists to personalize treatment plans that minimize side effects while maximizing efficacy .
3. Operational Efficiency in Healthcare Settings
   - Key Finding: AI is improving operational efficiency in hospitals and clinics by optimizing scheduling, reducing patient wait times, and managing supply chains. AI-driven systems can predict patient admissions and manage resources more effectively, leading to better patient care and cost savings.
   - Example: Some hospitals have reported a 20% increase in operational efficiency after implementing AI-powered scheduling systems that allocate resources based on predicted patient flow .
4. Ethical and Privacy Concerns
   - Key Finding: While AI offers numerous benefits, it also raises significant ethical concerns, particularly regarding patient privacy, data security, and algorithmic transparency. There is ongoing debate about the extent to which AI should be involved in decision-making processes traditionally handled by human professionals.
   - Example: Concerns have been raised about the potential for AI systems to perpetuate biases found in training data, leading to unequal treatment of patients from different demographic groups. Efforts to improve transparency and fairness in AI algorithms are ongoing .
5. Regulatory and Implementation Challenges
   - Key Finding: The integration of AI into healthcare systems faces regulatory and implementation challenges, including the need for clear guidelines, robust data governance, and training for healthcare professionals. Ensuring the safe and effective use of AI requires collaboration between technologists, healthcare providers, and policymakers.
   - Example: The World Health Organization (WHO) has emphasized the need for international standards and regulations to govern the use of AI in healthcare, focusing on patient safety and equitable access to AI technologies .
6. Future Potential and Innovations
   - Key Finding: AI is expected to continue transforming healthcare with innovations such as AI-driven drug discovery, virtual health assistants, and advanced predictive analytics. The future of AI in healthcare holds promise for even greater improvements in patient outcomes and healthcare delivery.
   - Example: Research is underway on AI-powered virtual health assistants that could provide patients with real-time health advice, monitor chronic conditions, and even alert healthcare providers to potential health crises before they occur .

Group Work Assignment Module 4: Outline Development

Activities:

- Outline Creation: Work together to create a structured outline that includes an introduction, main points, and conclusion.
- Role Assignment: Decide who will handle which sections of the presentation and any technical responsibilities.

Objectives:

- Develop a detailed outline for your video presentation.
- Assign roles and responsibilities within the group.

Deliverable:

- Submit your group’s outline for instructor feedback

Group Work Assignment Module 4: Deliverable Example

Outline: The Role of AI in Healthcare: Transforming Patient Care

I. Introduction
- A. Background on AI in Healthcare
  - Overview of AI technologies and their emergence in the healthcare industry.
  - Importance of AI in enhancing patient care and operational efficiency.
- B. Purpose of the Presentation
  - To explore how AI is revolutionizing healthcare, focusing on diagnostics, personalized medicine, and operational efficiency.
  - To discuss the ethical implications and future potential of AI in healthcare.
- C. Thesis Statement
  - AI is fundamentally transforming healthcare by improving diagnostic accuracy, enabling personalized treatment plans, and increasing operational efficiency, though it also presents significant ethical and regulatory challenges.

II. AI in Diagnostic Accuracy
- A. Overview of AI in Medical Imaging
  - Role of machine learning and deep learning in analyzing medical images.
  - Comparison of AI-driven diagnostics with human performance.
- B. Case Studies
  - Success stories in radiology (e.g., detection of early-stage cancers).
  - AI in pathology and its impact on diagnostic precision.
- C. Benefits and Limitations
  - How AI reduces diagnostic errors and accelerates the diagnostic process.
  - Challenges in integrating AI into existing diagnostic workflows.

III. AI and Personalized Medicine
- A. Definition and Importance of Personalized Medicine
  - Explanation of personalized medicine and its significance in modern healthcare.
- B. AI's Role in Tailoring Treatment Plans
  - Use of AI to analyze patient data for customized treatment.
  - Examples of AI predicting patient responses to treatments (e.g., chemotherapy).
- C. Case Studies
  - Success stories in oncology and chronic disease management.
  - Future potential of AI in gene therapy and pharmacogenomics.
- D. Ethical Considerations
  - Patient privacy concerns in personalized medicine.
  - Balancing innovation with ethical standards.

Group Work Assignment
Module 4: Deliverable Example

Outline: The Role of AI in Healthcare: Transforming Patient Care

IV. Operational Efficiency in Healthcare
- A. AI in Hospital Management
  - How AI optimizes scheduling, resource allocation, and supply chain management.
  - Impact on patient wait times and overall hospital efficiency.
- B. Examples of AI-Driven Operational Improvements
  - Case studies of hospitals with improved efficiency due to AI.
- C. Cost Implications
  - AI's role in reducing healthcare costs while maintaining quality of care.
  - Long-term benefits and potential savings for healthcare providers.

V. Ethical and Regulatory Challenges
- A. Ethical Concerns
  - Issues related to data privacy and security.
  - Algorithmic bias and its impact on patient care.
- B. Regulatory Landscape
  - Current regulations governing AI in healthcare.
  - The role of organizations like the WHO in developing international standards.
- C. Balancing Innovation with Responsibility
  - Strategies for ensuring AI is used ethically and responsibly in healthcare.
  - The importance of transparency and fairness in AI algorithms.

VI. Future Potential of AI in Healthcare
- A. Emerging AI Technologies
  - AI-driven drug discovery and development.
  - Virtual health assistants and their potential impact on patient care.
- B. Predictive Analytics
  - AI's role in predicting patient outcomes and preventing health crises.
- C. Long-Term Vision
  - The future of AI in healthcare: opportunities and challenges.
  - How AI could reshape global healthcare systems.

Group Work Assignment Module 4: Deliverable Example

Outline: The Role of AI in Healthcare: Transforming Patient Care

IVII. Conclusion

- A. Summary of Key Points
  - Recap of how AI is transforming diagnostics, personalized medicine, and operational efficiency.
  - Review of ethical and regulatory challenges.
- B. Final Thoughts
  - Emphasize the importance of balancing innovation with ethical responsibility.
  - The potential for AI to continue improving patient care and healthcare delivery.
- C. Call to Action
  - Encourage ongoing research and collaboration between technologists, healthcare providers, and policymakers to maximize the benefits of AI in healthcare.
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Group Work Assignment Module 5: Content Creation

Group Members :

Objectives:

- Develop the content for your video presentation.
- Begin creating visual aids and multimedia elements

Deliverable:

- Submit drafts of your content and visual aids for peer review.

Activities:

- Content Writing: Write out the script and key talking points for each section of the presentation.
- Visual Aids: Start developing slides, graphics, or other visual aids that will be used in the video.

Group Work Assignment Module 6: Peer Review

Activities:

- Peer Review Session: Exchange content drafts with another group for constructive feedback.
- Refinement: Revise your content and visual aids based on peer and instructor feedback.

Objectives:

- Provide and receive feedback on presentation content.
- Refine your presentation based on feedback.

Deliverable:

- Submit the revised version of your presentation content.

Group Work Assignment Module 7: Rehearsal and Video Planning

Activities:

- Rehearsal: Practice delivering your presentation sections as a group, focusing on smooth transitions and timing.
- Video Planning: Decide locations, equipment, and video recording roles. Plan how the final video will be edited and compiled.

Objectives:

- Rehearse the presentation as a group.
- Plan the logistics of recording the video presentation.

Deliverable:

- Submit a video production plan outlining the recording and editing process.

Group Work Assignment Module 8: Video Recording

Activities:

- Recording Session: Record your group’s video presentation, ensuring all members are prepared and confident in their delivery.
- Technical Check: Review the recordings to ensure they meet quality standards.

Objectives:

- Record the video presentation.
- Ensure all technical aspects are covered, including audio quality and visual clarity.

Deliverable:

- Submit raw video footage for preliminary review.

Group Work Assignment Module 9: Video Editing

Activities:

- Editing Session: Work on editing the video to ensure smooth transitions, clarity, and engagement.
- Final Review: Watch the edited video as a group to make any last-minute adjustments.

Objectives:

- Edit the video to create a polished final presentation.
- Add any additional elements, such as subtitles, transitions, or music.

Deliverable:

- Submit the final edited video for instructor approval.

Group Work Assignment Module 10: Video Submission

Activities:

- Video Submission: Upload the final video presentation to the designated platform.
- Reflection Discussion: Participate in a group discussion reflecting on what was learned during the project, both in terms of content and group dynamics

Objectives:

- Submit the final video presentation.
- Reflect on the project process and group collaboration.

Deliverable:

- Submit a written reflection on the project experience, focusing on what you learned about AI, public speaking, and teamwork.
- Submit your peer review on your teammates

Group Work Assignment Module 11

Team Introductions:

- The introduction segment should detail each member’s responsibilities and the part they played in bringing the project to completion. This is an opportunity to showcase teamwork and individual efforts.

Video Presentation:

- Each group will present their final video to the class. The video should include an introduction from each team member, outlining their specific role and contributions to the project (e.g., research, content creation, editing, etc.).

Class Viewing and Feedback:

- After each video presentation, the class will have the opportunity to provide feedback and ask questions. This feedback will focus on the content, delivery, and effectiveness of the presentation.

AI-Focused Small Group Project

Group Name:

Total Points: 100

Criteria for Evaluation:

Criteria	Excellent (90-100 points)	Good (80-89 points)	Satisfactory (70-79 points)	Needs Improvement (0-69 points)	Points Earned
Content Depth and Accuracy (25 pts)	Demonstrates exceptional depth of understanding, with highly accurate and well-researched information. Thoroughly covers the topic with strong, relevant details.	Demonstrates solid understanding, with accurate and well-researched information. Covers the topic effectively with relevant details.	Demonstrates basic understanding, with generally accurate information. Some details may be lacking or not fully explored.	Lacks depth of understanding, with significant inaccuracies or missing key information. Topic coverage is incomplete.	
Organization and Structure (20 pts)	The presentation is logically organized with clear, smooth transitions between sections. The structure enhances the clarity and flow of the content.	The presentation is well-organized with logical transitions. The structure is clear, though some transitions may be less smooth.	The presentation is adequately organized, though some sections may be disjointed or lack smooth transitions.	The presentation is poorly organized, with unclear structure and confusing transitions, making it hard to follow.	
Engagement and Delivery (20 pts)	Group members are highly engaging, confident, and articulate. Delivery is polished, with effective use of vocal variety, eye contact, and body language.	Group members are generally engaging and articulate. Delivery is clear, with good use of vocal variety, eye contact, and body language.	Group members are somewhat engaging, but delivery may lack energy or confidence. Vocal variety, eye contact, and body language are adequate but could be improved.	Group members struggle to engage the audience. Delivery is flat or unclear, with minimal vocal variety, eye contact, or body language.	
Use of Visual Aids/Multimedia (15 pts)	Visual aids and multimedia are creatively and effectively used to enhance the presentation. They are professional, relevant, and seamlessly integrated.	Visual aids and multimedia are well-used and relevant, contributing positively to the presentation. Integration is smooth but could be more creative.	Visual aids and multimedia are used adequately, but may be basic, underdeveloped, or not fully integrated into the presentation.	Visual aids and multimedia are poorly used, irrelevant, or distract from the presentation. Integration is awkward or missing.	

Criteria	Excellent (90-100 points)	Good (80-89 points)	Satisfactory (70-79 points)	Needs Improvement (0-69 points)	Points Earned
Team Collaboration (10 pts)	The group demonstrates excellent collaboration, with clear evidence of equal participation and strong teamwork. Roles and responsibilities were well-managed.	The group demonstrates good collaboration, with most members participating actively. Teamwork was generally effective, though some roles could be better defined.	The group demonstrates adequate collaboration, but participation may be uneven. Teamwork was sufficient, but some members may have dominated or contributed less.	The group demonstrates poor collaboration, with minimal evidence of teamwork. Participation was highly uneven, and roles were unclear or poorly managed.	
Adherence to Assignment Guidelines (10 pts)	The group fully adheres to all assignment guidelines, including time limits, format, and submission requirements.	The group adheres to most assignment guidelines, with only minor deviations that do not significantly impact the presentation.	The group adheres to basic assignment guidelines but may have some noticeable deviations in format, timing, or submission.	The group fails to adhere to key assignment guidelines, with significant deviations that negatively impact the presentation.	

AI-Focused Small Group Project: Title

Group Name:

Group Member:

Submitted by:

Criteria for Evaluation:

Criteria	Excellent (18-20 points)	Good (14-17 points)	Satisfactory (10-13 points)	Needs Improvement (0-9 points)	Points Earned
Contribution to Research (5 pts)	Consistently contributed high-quality research, finding relevant and credible sources. Actively shared insights with the group.	Regularly contributed useful research, found credible sources, and participated in discussions.	Contributed some research, but it was occasionally incomplete or not fully relevant.	Contributed little to no research or provided sources that were not credible or relevant.	
Quality of Work (5 pts)	Produced work of exceptional quality, exceeding expectations and enhancing the group project.	Delivered quality work that met the group's expectations and contributed to the project's success.	Work was acceptable but lacked depth or had minor errors that needed correction.	Work was subpar, requiring significant revisions, or was incomplete.	
Collaboration and Teamwork (5 pts)	Worked extremely well with all group members, fostering a collaborative environment and ensuring all voices were heard.	Collaborated effectively with group members, generally contributing to a positive group dynamic.	Participated in group activities but occasionally struggled with communication or collaboration.	Struggled to collaborate with group members, leading to challenges in group dynamics.	
Reliability and Responsibility (5 pts)	Always completed tasks on time and was highly dependable, taking on additional responsibilities when needed.	Usually completed tasks on time and was reliable, with only minor lapses in responsibility.	Occasionally missed deadlines or needed reminders to complete tasks but eventually delivered.	Frequently missed deadlines, was unreliable, or failed to complete tasks adequately.	