

# SEAS 8505 Final Paper Instructions

*Due August 17, 2024 at 9:00 AM Eastern*

In this final paper, you are tasked with synthesizing your learning from the doctoral course on Applied Machine Intelligence and applying it to a practical context.

Please choose three of the most important ideas/concepts you learned in the course and describe these in the paper. In addition, the paper should discuss the process of translating theoretical concepts from the course and textbook into practical applications. It could include case studies or personal experiences of implementing machine learning models or AI solutions in industry or research projects.

## **Instructions:**

In this final paper, you are tasked with synthesizing the knowledge acquired throughout this doctoral course in applied machine intelligence. Your paper should delve into three of the most crucial topics covered in the course with a paragraph dedicated to each topic. Please select these topics based on their relevance and significance in contemporary machine learning. In addition, provide a paragraph briefly exploring how theoretical concepts from the course and textbook can be transformed into practical applications or how these concepts apply to emerging trends in applied machine intelligence. You may draw heavily from the discussion topics, any case studies you are familiar with or even personal anecdotes illustrating the implementation of machine learning models or AI solutions in real-world industry or research settings.

## **Paper Structure:**

### **Introduction:**

Provide an overview of the paper, summarizing the selected topics and their relevance in applied machine intelligence. Offer a brief insight into the emerging trends and potential research areas in applied machine intelligence.

### **Selected Topics:**

Choose three topics from the course that you consider the most critical. These can be from the discussion questions or from the course itself. For each topic, address the following:

- Explain the core concepts and principles.
- Discuss the design considerations and challenges associated with the chosen topic.
- Explore practical applications and use cases that highlight the real-world importance of the topic.
- Share any insights or breakthroughs discussed in class related to these topics.

### **Integration and Takeaways:**

- Synthesize the information from the selected topics.
- Reflect on the interconnectedness of these Applied Machine Intelligence concepts.
- Discuss the implications and overarching lessons learned from studying these topics.

**Emerging Trends, Application of Theory to Practical Applications or Research Needs:**

- Analyze the current trends and emerging technologies in applied machine intelligence.
- Suggest where new research and development efforts in applied machine intelligence are warranted.
- Provide your perspective on the future of applied machine intelligence and the potential impact on various domains.
- Suggest areas where new research is required in applying machine intelligence.

**Conclusion:**

- Summarize the key findings and takeaways from your paper.
- Reiterate the significance of the selected topics in shaping the field of applied machine intelligence.
- Offer concluding remarks on the evolving landscape of applied machine intelligence.

**Requirements:**

- Your paper should be well-structured, coherent, and supported by evidence from the course materials and additional research where relevant.
- Cite academic sources and research papers to substantiate your arguments and observations.
- The paper should be well-organized, free of grammatical errors, and adhere to academic writing conventions.
- Aim for a balanced perspective that combines theoretical knowledge with practical applications.
- This final paper provides an opportunity for you to showcase your comprehensive understanding of applied machine intelligence and its contemporary relevance. Additionally, it encourages you to think critically about the future directions and potential innovations in this dynamic field.

**Write a 1,000 – 2,000-word paper based on the prompt above. Be sure to stay within this word limit.**

Your assignment must follow these formatting requirements:

- Be typed, single spaced, using Times New Roman font (size 12), with one-inch margins on all sides.
- Include a page for citations at the end of the assignment. Citations and references must follow APA or school-specific format.
- Include a cover page containing the title of the assignment, the student's name, the professor's name, the course title, and the date. The cover page and the reference page are not included in the required assignment page length.
- Be sure to name the file as follows: LastName\_FirstName\_SEAS8505\_Final\_Paper.docx
- Submit your Document in **MS WORD Format. Please do NOT submit PDFs or Text Formats.**
- Write clearly and concisely about topics related to the course using proper writing mechanics and technical style conventions.
- Please use heading labels for each section to improve readability.