

Week 1 Narrative Report: Synesthetic Learning Project

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This week's work centered on advancing our project, *Synesthetic Learning: Modeling Cross-Modal Emotional Resonance Between Audio and Abstract Art Using Deep Learning*. Our goal as a team was to formalize the direction of the study, articulate its research importance, and structure the foundational sections of the report. The project explores how emotional meaning can bridge two very different sensory domains—sound and abstract art—and how deep learning can model the intuitive emotional connections that humans naturally form across senses.

The group worked collectively to refine the problem context and establish the technical and conceptual foundations. My contribution focused on conceptual development and content creation. Early in the process, I proposed the central idea of exploring synesthetic learning as a framework for cross-modal emotional alignment. I explained how abstract art and affective audio share expressive properties that make them suitable for modeling emotional resonance. This helped the group shape the narrative direction of the introduction and problem statement.

I also assisted in clarifying the research gap by highlighting how current systems mostly operate within single modalities and rarely attempt to bridge affective meaning across senses. This framing became important in articulating why our project matters, especially in fields like affective computing, computational creativity, and multimodal deep learning.

For this week's deliverables, I drafted and refined several key sections of the report. This included the introduction, background discussion on the psychology of emotion and synesthesia, and the motivation behind using abstract art as the visual medium. I also contributed to structuring the objectives, ensuring that the goals reflect both model development and interpretability. For the significance section, I helped outline the technical and societal implications, emphasizing applications in therapy, media design, and human-centered AI. This ensured the report communicated not just what we plan to build, but why the work is meaningful.

Additionally, I collaborated with the team in describing the expected outcomes. I helped articulate how the shared embedding space, clustering behavior, and qualitative insights will demonstrate whether the model successfully learns emotional resonance across modalities. This forward-looking section sets the stage for the evaluation work that will follow in the next phases of the project.

Overall, my contribution this week centered on conceptualizing the thematic direction of the project, sharing these ideas with the group, and crafting substantial portions of the written deliverable. By helping define the narrative, refine the framing, and ensure clarity across sections, I supported the team in producing a coherent and well-structured report that captures the depth and ambition of our study.