My senior design project is a venture into the realm of advanced artificial intelligence. The project aims to create a computer-based virtual voice AI assistant, similar to Siri but significantly more advanced in its capabilities. This AI assistant is designed to answer questions at the level of GPT-4, representing the pinnacle of natural language processing and understanding. Drawing upon my academic background in Intelligent Data Analysis, AI Principles, Database, and related coursework, I am well-prepared to embark on this challenging project.

My college experiences have played a pivotal role in preparing me for this project. In particular, courses such as “CS 5152: Intelligent Data Analysis” have equipped me with the skills to process and extract insights from large datasets, a crucial aspect of developing an advanced AI assistant. Additionally, “CS 4033: AI Principles and Applications” has provided me with a solid understanding of AI algorithms and techniques, essential for implementing cutting-edge capabilities into the virtual assistant. Furthermore, “CS 4092: Database Design” and “EECE 3093C: Software Engineering” have honed my ability to design efficient databases to support the AI's functions and the details in the process of creating a consumer product.

My co-op experiences, particularly my role as a Software Developer for Emerson Climate Technologies, have further enriched my skill set. During this tenure, I collaborated with a team to implement a novel approach to critical code, which was integral to the Indoor Air Quality system. I also developed custom SmartThings Edge device drivers using the Lua programming language, enabling communication between a central hub and air quality sensors. Additionally, I had the opportunity to create machine learning models for predicting and analyzing defrost cycles in cooler cases. These experiences not only enhanced my technical skills

but also improved my ability to work in multidisciplinary teams and adapt to real-world project constraints.

My motivation for this project stems from my long-standing passion for artificial intelligence and natural language processing. The opportunity to create an advanced virtual voice AI assistant aligns perfectly with my career aspirations. I am excited to contribute to the field of AI and bring my dream of developing a sophisticated AI to fruition.

My preliminary approach to designing a solution involves leveraging the principles of natural language processing, machine learning, and deep neural networks. I plan to build upon existing AI models, integrating advanced techniques to achieve the desired GPT-4 level of performance. I anticipate that the project will involve extensive data preprocessing, model training, and rigorous testing to ensure the AI assistant's accuracy and reliability.

My expected results and accomplishments include the successful creation of a computer-based virtual voice AI assistant that can operate at the GPT-4 level. Ideally, this assistant should be capable of answering complex questions, engaging in natural conversations, and performing various tasks with a high degree of accuracy.

To self-evaluate my contributions, I will establish clear project milestones and objectives. I will consider the project complete when the AI assistant consistently meets predefined performance metrics and can perform tasks at the desired level. Additionally, feedback from users and peers will be instrumental in assessing the assistant's effectiveness. Ultimately, my measure of success will be the realization of a highly functional and advanced virtual voice AI assistant, bringing my vision to life.