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I have always been fascinated by the applications of technology and computer science in various fields. Over the past summer, I was lucky to apply many concepts I learned in a class setting to the field of neuro-engineering.

The goal of my research was to determine whether the metric of brain age could be reliably used as an indicator of surgical outcome for epilepsy patients. Brain age is the predicted age of an individual derived using high-dimensional neuroimaging data in a machine learning framework. This potentially represents a biomarker of the underlying 'age' of the brain. Using an existing supervised machine learning model that calculates a patient's brain age from an MRI, I examined brain age differences between a healthy control population and a population of patients with epilepsy. After writing code, running statistical tests and examining correlations, I came to the conclusion that brain age cannot reliably be used to predict surgical outcome for epilepsy patients as brain age differences vary due to other underlying factors such as chronological age.

Through this experience, I've learned the power of statistical concepts to have real world impact. This experience solidified many theoretical ideas that I was able to use in a practical setting. Working in a research lab allowed me to appreciate the intricacies of the research process. It is astounding how our knowledge today is a culmination of many small steps and discoveries by researchers before us. I hope to continue to get involved in research in my academic career and this summer was the best possible experience I could have asked for.