

## **Topic Proposals**

My topic for the Independent Study and Mentorship (ISM) program is biomedical engineering. This year, I aim to deepen my understanding of the mechanics behind medical devices. Through my independent study, I plan to design and create a prototype, utilizing 3D modeling and printing to bring my ideas to life. This project will allow me to explore the technical aspects of device engineering while gaining hands-on experience that will be valuable for my future studies and career in biomedical engineering.

My interest in biomedical engineering developed through exploring different aspects of the technological world. My journey began with getting accepted into a vocational school for computer science in freshman year and experimenting with different coding languages through working on various projects. Through these experiences, I realized I wanted to work with more than just software and ventured into hardware, specifically robotics. Along the way, I became fascinated with the brain and intrigued by the neurological aspects of the body. This interest allowed me to connect my passion for technology with medical science, blending engineering and healthcare. Ultimately, this fusion led me to biomedical engineering, where I could pursue innovative solutions that intersect both fields.

I am an ENTP-A according to the Myers-Briggs personality test which means I am an extroverted, intuitive, thinking, perspective, and assertive personality type. Research has shown that this personality type thrives in an environment where their intellect is challenged and they have opportunities to create innovations. These personality traits do the best in fields like consulting, technology, or research and development. Biomedical engineering is my chosen path because it combines these elements with the potential to make impactful contributions to healthcare. I am a person who likes to take complex problems and spend their time and energy learning more about that field in order to provide a potential solution – qualities that fuel my ambition to develop innovative solutions for diseases or provide valuable data for medical research. . This contribution to the medical field would make me feel fulfilled in life as well as feed the hunger for knowledge and creation I have.