My internship in Germany with DAAD gave me the opportunity to experience a research environment outside MIT while exploring a different subfield of experimental physics. I spent two months conducting research at the Budker Group at the Helmholtz Institute Mainz, Johannes Gutenberg University Mainz. The experience gave me a broader perspective on how research is conducted in Germany, while also allowing me to experience German life and culture beyond what I had previously encountered as a traveler.

My project involved experimental nuclear magnetic resonance (NMR) measurements of lithium-ion battery electrolytes at ultralow magnetic fields. I particularly enjoyed learning the physics behind NMR and becoming familiar with an experimental system that was new to me. I learned how the apparatus worked, performed measurements under different experimental conditions, and developed MATLAB scripts to process and analyze large datasets. Toward the end of the internship, I conducted a measurement involving 10,000 scans over several days and inferred the battery electrolyte composition from the data. By the end of my internship, I also prepared a protocol and data-processing code for future students who work on the project, which I hope will make their onboarding easier. A typical day depended on the stage of the project. Some experiments ran for hours or even several days, so part of my time was spent monitoring the apparatus and troubleshooting problems. At other times, I worked at my computer processing NMR data, trying to understand unexpected features in the spectra, or reading papers. Because the project was relatively independent, my schedule varied considerably from day to day.

My overall impression of research in Germany is that the environment is collaborative, international, and places a strong emphasis on work-life balance. My research group included people from many different countries, and English was the main language of communication. I noticed that people generally maintained clearer boundaries between work and their personal lives. At the same time, the research itself was rigorous and independent. My professor was busy and was not involved in my day-to-day work, so I worked more closely with a postdoc and other researchers in the group. This gave me considerable independence in planning measurements, troubleshooting the experiment, analyzing data, and deciding what to try next.

Personally, living in Germany for two months was just as valuable as the research. I had traveled in Germany before, but traveling through a country and actually living there are very different experiences. I lived in Mainz and used my weekends to explore Germany and neighboring countries. I hiked in the Alps, visited cities

and smaller towns, attended concerts, and met local people. I also tried to learn some German and made friends through university and local events. These experiences gave me a much deeper understanding of everyday life in Germany. I appreciated the extensive public transportation, environmental awareness, work-life balance, and accessibility of nature. I also encountered less convenient aspects of life, including train delays, bureaucracy, summer heat without air conditioning, and the challenges of initially building a social circle in a new city. These experiences were valuable precisely because they allowed me to see Germany as somewhere people actually live rather than simply as a travel destination. The experience also gave me more confidence in considering living in Europe after completing my PhD.

I would strongly recommend the RISE Professional program. DAAD communication throughout my experience was smooth, and the program provided both financial support and opportunities to connect with other participants. The RISE Germany and RISE Professional Meeting 2026 in Heidelberg was particularly memorable because it brought together scholars from many disciplines and institutions and I could learn about the wide variety of research and industry projects they were pursuing. Presenting my research there was also a highlight as preparing the presentation forced me to organize what I had learned and explain my project to students working in very different fields. Beyond the specific research project, the program gave me the opportunity to try a new area of physics, experience a different research culture, live abroad independently, and reflect on what kinds of research and environments I would like to pursue in the future. Even realizing that this particular research direction did not align with my interests as strongly as my research at MIT was valuable. The internship expanded my perspective academically, professionally, and personally, and encouraged me to continue seeking experiences outside my comfort zone.

I agree that my report and accompanying pictures may be used by the DAAD in printed materials, presentations, and on websites in order to inform funding organizations, sponsors, and students about the RISE program.