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To Whom It May Concern,

As a second-year Robotics M.S. student, and someone who is involved in robotics research, I aspire to work for a company like Toyota Research Institute (TRI). My goal is to seamlessly integrate machine learning, artificial intelligence, and robotics into our daily lives. I believe this aligns well with TRI's mission to create products that dramatically improve quality of life for individuals and society. This job overlaps well with my previous work experiences and career aspirations to develop tools to improve humans' interactions and collaborations with autonomous systems. I have a great combination of diverse collaboration skills, independent work capabilities, and sharp critical thinking skills that make me an excellent candidate for this position.

My strongest abilities are:

- **Diverse collaborator that can communicate with individuals in many fields**
Over the course of my research assistant experience since 2019, I have been involved in many interdisciplinary projects. I have worked with graduate students in computer science and apparel design, creating a voice assisted wirelessly controlled garment for real-time, in-home, on-body stimulation solutions. I created a communication protocol to connect a wireless garment to a central hub server, for remote telehealth solutions. I also worked with electrical and mechanical engineers to design and control a shape memory alloy and pneumatic actuated exoskeleton for children with upper-limb mobility disabilities.
- **Quick learner that requires minimum supervision**
In the summer of 2021, I worked as a Project Engineering Intern at Open Systems International, Inc. I was tasked with an individual project of automating a supervisory control and data acquisition (SCADA) system to handle automatic data file parsing. I presented the final product tool and demonstration to a large group of project managers and the CEO.
- **Efficient worker that can produce desirable results**
During my internship at OSI, my automation solution tool satisfied over 80% of the mandatory tests that were run on the system. During my research experience in 2019, I designed a working soft-robotic garment that was implemented into a 5-phase user study which obtained feedback from 10 participants. During my coursework in 2021, I fabricated a printed-circuit-board (PCB) design for a differential current sensor that could record values within an error less than 2mA.
- **Passionate about the fields of human robot interaction (HRI) and learning-based approaches to robotics perception and manipulation:**
This upcoming Fall 2023 semester, I will complete my master's capstone in the Robotics: Perception, and Manipulation Lab (RPM) at the University of Minnesota. I will be tasked with extending the *Soft-Bubble Gripper for Robust Perception and Manipulation*, work done at Punyo, a research team at Toyota Robotics. This extension will include a policy learning framework, allowing for novel and diverse applications in complex at-home environments. I have also worked with the GelSight Mini sensor from GelSight and Tacto, an open-source simulator from Facebook Research. I developed a Sim2Real framework to classify objects and derive pose estimations from visuo-tactile data. This was used for various pick and place tasks on a UR5 robot.

In closing, I would like to thank you for your time and attention, and I am looking forward to having the opportunity to interview for Research Engineer/Scientist Human Robot Interaction (HRI).

Best Regards,
Miles S. Priebe