Dear Hiring Manager,

I am writing to express my interest in the Summer internship at SICK Sensor Intelligence (Analyze Edge Learning AI Vision Performance with Incomplete Data). My career goal is to integrate algorithms with hardware, bridging the gap between mathematical models and real-world engineering applications, particularly in robotics.

I am currently pursuing a Master's in Applied Mathematics at KTH, where my focus has always been on applying mathematical algorithms to engineering challenges. For qualification, I had courses GPU programming, Computer Vision and Applied Machine Learning during Master's study at KTH. However, I understand that coursework alone is not enough for developing complex products like those at SICK, which is why I actively seek hands-on experience in engineering applications.

The Master Thesis I'm working on now is about Object Understanding (Dino-x) and 3D Reconstruction (Gaussian Splatting) to inform UR5 robotic arm to manipulate. Additionally, I did a interesting embedding project (self-driving car) during my Bachelor, which was a exciting team work (from unknown racing car team to high rank nationally). Beyond academia, I'm also self-motivated with frontier of artificial intelligence, my colleagues and I are currently developing an application that creates a local knowledge base for Large Language Models by tokenizing documents into vector representations.

This internship aligns perfectly with my interests, as it offers an opportunity to deepen my understanding of machine vision techniques used in industry. I believe that 3D reconstruction will play a crucial role in industry environment recognition, as 2D information alone may overlook potential risks in factory settings.

Really looking forward to an interview to discuss more on computer vision & 3D Reconstruction and what I can contribute to your team.

Sincerely,
Jiacheng Xu