Dear Shunsuke Ono-sensei,

I hope this email finds you well. My name is Krish Bakshi, and I am writing to express my sincere interest in contributing to the research conducted at the Mathematical Data Informatics Lab and applying for the master’s program at the Tokyo Institute of Technology for the Fall/September 2025 intake. Your pioneering work in signal processing, measurement informatics, remote sensing, mathematical optimization, and image analysis, particularly your publications such as "Introducing Graph Learning over Polytopic Uncertain Graph" and "Robust Spatiotemporal Fusion of Satellite Images: A Constrained Convex Optimization Approach," deeply inspires me and aligns closely with my academic and career aspirations.

I am currently pursuing a Bachelor’s degree in Computer Engineering at Savitribai Phule Pune University, where I have cultivated a strong foundation in machine learning, deep learning, and optimization techniques aside from maintaining a strong academic record of 8.5 CGPA. My academic coursework in Probability and Statistics and Machine Learning has equipped me with the analytical skills necessary to approach complex problems in image analysis and signal processing.

During my Data Science Internship at Profcess, I designed an automated image preprocessing pipeline for optical character recognition (OCR), achieving an 87% accuracy rate through advanced preprocessing techniques. Additionally, I contributed to time series forecasting projects and designed data pipelines on Azure Databricks, showcasing my ability to handle large-scale data processing tasks. My project portfolio includes the development of a CNN-based model for plant disease classification, which utilized CUDA for accelerated processing, and ImaginAIry, a text-to-image generation app leveraging generative AI techniques with Stable Diffusion XL.

In addition, my Practical AI with Python certification underscores my dedication to refining my expertise in machine learning and optimization. Furthermore, my Japanese proficiency (JLPT N3) qualifies me to integrate seamlessly into your academic environment and collaborate effectively in a Japanese research setting.

I am particularly drawn to your lab’s focus on graph learning and spatiotemporal data analysis. I am excited about exploring how convex optimization and sparse regularization methods can be applied to solve real-world challenges in satellite image fusion and dynamic sensor network data recovery. Under your guidance, I hope to contribute to groundbreaking advancements in these fields by applying my skills in Python, TensorFlow, PyTorch, and image processing frameworks.

I would be honored to discuss how my skills and interests align with your lab’s objectives. I look forward to the opportunity to collaborate and learn under your esteemed mentorship.

**Warm Regards,**

Krish Bakshi