Dear Takafumi Kanamor-sensei,

I hope this message finds you well. My name is Krish Bakshi, and I am writing to express my interest in contributing to the impactful research conducted at Kana Lab and applying for your master’s program at Tokyo Institute of Technology Fall / September 2025 intake. Your pioneering work in machine learning, mathematical statistics, and information geometry, particularly your recent publications such as *"Robust Estimation for Kernel Exponential Families with Smoothed Total Variation Distances"* and *"Denoising Cosine Similarity: A Theory-Driven Approach for Efficient Representation Learning"*, deeply resonates with my academic pursuits 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, data analytics, and optimization techniques. Through my coursework and projects, I have developed a deep appreciation for the mathematical underpinnings of machine learning algorithms and their real-world applications.

During my Data Science Internship at Profcess, I worked on designing and deploying scalable data pipelines for time series forecasting using tools like Azure Databricks, and implemented models such as XGBoost, ARIMA, and SARIMA to improve predictive accuracy. Additionally, I have led projects such as Pulsemate, a cardiology chatbot leveraging retrieval-augmented generation (RAG), and a CNN-based plant disease classification model that utilized CUDA acceleration for efficient computation. These experiences have honed my skills in Python, TensorFlow, PyTorch, and statistical modeling, all of which are directly relevant to your research on robust learning algorithms and optimization methods.

What excites me most about your lab is its emphasis on nonlinear, robust, and stochastic optimization methods and their application to improving machine learning models’ performance in uncertain and high-dimensional settings. I am particularly drawn to your work on density ratio estimation and divergence-based methods, which align with my interest in exploring statistical techniques for robust and scalable machine learning.

In addition, my Practical AI with Python certification reflects my ongoing commitment to developing my knowledge of AI and machine learning. Furthermore, my Japanese proficiency (JLPT N3) qualifies me as an ideal candidate to seamlessly integrate into your research environment and collaborate effectively in a Japanese academic setting.

I am eager to contribute to Kana Lab’s innovative research by applying my technical skills and analytical mindset to address challenges in machine learning and optimization. I would be honored to discuss my qualifications and potential contributions further and I look forward to the possibility of collaborating and learning under your esteemed guidance.

**Best Regards,**

Krish Bakshi