Tu Delft,

Selection Committee,

I am enthusiastic about pursuing graduate studies at Tu Delft, focusing on advancing my expertise in Artificial Intelligence (AI), Machine Learning (ML), Scientific Computing, and Computer Vision. My academic journey and hands-on experiences, including supervising multiple Final Year Project (FYP) research groups, have uniquely positioned me to contribute significantly to your research project.

During my master's thesis, I proactively addressed a critical agricultural issue, a disease common in our country, Pakistan - Boll Rot disease in cotton crops. This endeavor involved creating a comprehensive **dataset from scratch**, showcasing my commitment to meticulous research and data generation. The results of this thesis were not only academically rewarding but also had practical implications for the agricultural sector. This led me to publish my research paper on this very specific topic.

My teaching experience includes multiple courses with over two years as a Lecturer of Software Engineering at Riphah International University Faisalabad Campus, where I was able to establish a positive rapport with undergraduate students and engaged their interest in Software Quality assurance, Software Design and Architecture, Software Project Management and Object-Oriented Programming, Introduction to Artificial Intelligence which included Neural nets, ML, GAN and different deep learning models. My teaching evaluations showed that students appreciated my enthusiasm and knowledge of my topic and my ability to lead tutorial discussions inclusively.

In addition to my academic and research achievements, my involvement in supervising three distinct FYP research groups has allowed me to hone a broad set of skills. My role in guiding these research groups has given me insights into collaborative project management, technical problem-solving, and effective communication skills, all crucial in academia and industry. I am currently leading a group focused on "Brain Tumor Detection Using Deep Learning," where I leveraged advanced neural network architectures and image processing techniques, which will further be published as an academic paper. Simultaneously, another group working under my supervision on "Retina Scan: An Application to Detect Diabetic Retinopathy" emphasized the integration of medical imaging and machine learning for early disease detection. Lastly, my group supervision exploring "Early-Stage Skin Cancer Detection" involved implementing computer vision algorithms and pattern recognition methods to contribute to healthcare diagnostics. Additionally, my involvement in the project "Lungs Cancer Classification Using Machine Learning Utilizing ResNet and Imbalanced Dataset Balancing" demonstrates my expertise in leveraging machine learning techniques to address critical healthcare challenges while tackling issues such as imbalanced datasets. This teaching and research experience blend has equipped me with a holistic approach to problem-solving and a deep understanding of the intersection between academia and real-world applications. With a background in software Engineering, I have gained a comprehensive understanding of the theoretical underpinnings of AI, ML, and related disciplines. My interdisciplinary approach is further enriched by exposure to diverse fields, contributing to a holistic perspective on problem-solving.

I look forward to meeting with the research Committee members to demonstrate further how I could contribute to teaching and research at your department. Thank you for your consideration and your time in reviewing my application.

Yours Sincerely,

Anjum Ali,

Department of Computing,
Riphah International University, Faisalabad-Pakistan