



National University of Sciences and Technology Islamabad

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To whom it may concern

I firmly believe that **Muhammad Siddiqi** is a worthy candidate for the program “**Resource allocation in federated learning by jointly considering communication, computation, and data heterogeneity**”. Muhammad showed remarkable intelligence, unwavering dedication, and a strong aptitude for software engineering and artificial intelligence during his undergraduate studies at the National University of Sciences and Technology (NUST), where I had the honor of being his instructor.

Muhammad constantly stood out among his peers due to his profound comprehension of complicated subjects, especially artificial intelligence and machine learning, as well as his strong analytical and problem-solving ability. He showed a dedication to excellence and lifelong learning by taking a deep interest in investigating cutting-edge technology and consistently attempting to increase his knowledge outside of the classroom.

His capacity for group collaboration and insightful conversation was equally striking. Muhammad was frequently admired by his colleagues for his ability to think clearly and communicate complex ideas in an understandable way. These attributes make him a great team player who encourages cooperation and mutual success in addition to being an exceptional individual contributor.

At NUST, I served as Muhammad’s instructor for the **Artificial Intelligence** course during his undergraduate studies. He was a standout student from the start, quickly understanding difficult ideas like neural networks, machine learning techniques, and natural language processing. Muhammad had remarkable speed in understanding academic concepts and applying them to real-world issues. He routinely received high marks on tests, projects, and assignments, demonstrating not only his intelligence but also his diligence and enthusiasm for the subject. His profound comprehension and passion for artificial intelligence were further demonstrated by his perceptive inquiries and engaged involvement in class discussions.

Muhammad constantly performed exceptionally well academically, which demonstrated his drive to meet high expectations. In addition to his technical proficiency, he demonstrated a keen sense of intellectual curiosity and an ethical perspective on AI—qualities essential to the responsible creation and use of AI systems.

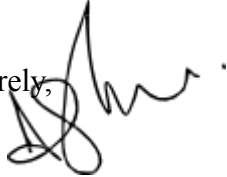
Muhammad's goals and skills are perfectly matched with the program curriculum. I have no doubt that he will flourish in the demanding academic setting of the program and make a significant contribution

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to the international AI community. Both before and after the program, I think he has the ability to significantly advance the field of artificial intelligence.

Please feel free to contact me at ayesha.maqbool@seecs.edu.pk should you require any further information or insights regarding Muhammad Siddiqi's candidacy.

Sincerely,



Associate Professor Ayesha Maqbool