Dear Hiring Manager,

I hope this message finds you well. Through this letter, I want to relay why I am a good fit for the Applied Scientist role at Microsoft's Designer team. As an AI enthusiast, avid researcher, longtime tech enthusiast, and grad student, I'm incredibly excited about the opportunity to bring my passion for AI into the world of intuitive, user-focused design experiences.

My journey in academia and research closely aligns with the qualifications you're seeking. Throughout my studies, I've delved into coursework, hands-on projects, and research spanning areas like machine learning, computer vision, and natural language processing. These experiences have given me the skills necessary to work on ambitious projects like Microsoft Designer. I have experience working on projects demanding broad as well as deep understanding of modern deep learning frameworks, such as creating a food image-to-recipe generation system and developing a privacy-conscious question-answering system for mental health risk assessment. These projects have enhanced my ability to leverage state-of-the-art technologies, such as transformers and large language models, to build AI systems that solve real-world problems. My passion for research in AI started during my undergraduate days at NIT Durgapur, where I contributed to diverse projects ranging from Intelligent Fire alarms to Underwater Image Enhancement systems. This rich background has equipped me with a deep understanding of machine learning frameworks.

As course and passion projects, I have built neural networks, hidden Markov models, evolutionary models, gameplaying algorithms, and various other AI frameworks ground up. This hands-on experience has not only improved my technical skills but has also provided me with valuable insights into the inner workings of these models. For instance, I have designed and implemented multilayer perceptron and convolutional neural networks using only NumPy and Python. Creating key components like convolutional layers, pooling, dropout, and regularization from scratch has led me to understand how the math behind it works. Such experiences have empowered me to customize AI architectures to suit novel applications effectively.

Beyond my technical background, I've been a passionate admirer of Microsoft and its products since my childhood. From following hardware to software developments since my early school days, I've followed Microsoft's ongoing innovations with great enthusiasm. Joining a team committed to pushing the boundaries of technology to enhance people's efficiency and creativity at Microsoft would be an incredible opportunity cum honor.

The amalgam of my academic training, hands-on experience, research, and unwavering passion for Microsoft's technologies makes me confident that I can make a significant contribution to the Microsoft Designer team. I'm eager to explore how I can be a valuable asset to your team. Thank you for considering my application, and please don't hesitate to reach out if you need any further information.

Warm regards,

Dhiraj Chaurasia