**Welcome to QMC**

QMC is a research group at the National Institute of Technology Kurukshetra, India. We are a team of academicians, researchers, and students working on multidisciplinary research projects on quantum computing, machine intelligence, and cloud computing.

Prof. Ashutosh Kumar Singh is the Director of QMC Research Lab and Indian Institute of Information Technology Bhopal, Madhya Pradesh, India (*an institution of national importance*). Prof. Singh has more than 20 years of rich experience in research, teaching, and administration in various educational and research institutes in the United Kingdom, Australia, Malaysia, and India. He obtained his doctorate in Electronics Engineering from the Indian Institute of Technology-BHU, India; Post Doc from the Department of Computer Science, University of Bristol, United Kingdom; and Chartered Engineer from the United Kingdom. Also, he received the Japan Society for the Promotion of Science (*JSPS*) fellowship and visited the University of Tokyo and other universities in Japan. His research is focused on quantum computing, machine learning, cloud computing, big data analytics, and security and privacy.

**Research**

Our research primarily concentrates on quantum and reversible computing developments, predictive analytics, energy efficiency, security, privacy, and optimization in distributed systems.

Check out some of our recent publications in various domains:

**Research Theme**

**Quantum Computing:** In a world where classical computers are nearing their capacity, quantum computing offers the potential for groundbreaking advancements in areas like cryptography, optimization, and material science. At QMC, we focus on advancing quantum algorithms, especially machine learning algorithms, to harness the extraordinary capabilities of quantum systems. Collaborating with a dedicated team, we aim to develop practical applications that could transform our approach to complex problems in science and technology.

**Machine Learning:** Machine learning isn't just a technological advancement; it's a transformative force reshaping our perception and interaction with the world. At QMC, we deep dive into the captivating realm of machine learning, where I explore state-of-the-art techniques, algorithms, and their real-world applications. From predictive analytics to fraud detection, our work is centred around harnessing the full potential of artificial intelligence. Collaborating with a dynamic team of experts, we continuously strive to push the boundaries of what machine learning can accomplish, seeking to address practical challenges across various domains.

**Cloud Computing:** Cloud computing is a transformative paradigm providing seamless access to vast digital resources, enabling innovation and reshaping how we work and live. At QMC, we delve into the dynamic realm of cloud computing, where we explore emerging technologies, scalable architectures, and innovative solutions. From optimizing resource allocation in the cloud to enhancing security within distributed systems, our work is centred on unlocking the full potential of cloud technology. We continuously strive to expand the boundaries of what cloud computing can offer, addressing real-world challenges and contributing to the evolution of IT infrastructure.

You may contact us at [qmc.clab@gmail.com](mailto:qmc.clab@gmail.com) to join us on this exhilarating journey into emerging computing technologies, where innovation knows no limits and the future is shaped by data-driven insights and intelligent algorithms.