Emerging Trends in Quantum Computing And Cryptography

Rohan C [a]

[a] PES University, Bengaluru, Karnataka, India

Email id: chandrashekar.rohans@gmail.com
Phone Number: 9008480824

Abstract

Quantum computing is a new kind of computing that uses the principles of quantum mechanics. It has the potential to solve problems much faster than traditional computers. This is really exciting, but it also creates a big challenge for how we keep our digital information safe. In this talk, I will discuss how quantum computing could change the game in cryptography, which is the way we protect information online.

Today's methods for protecting our data, like the ones used in online banking or email, might not be strong enough against a quantum computer. This is a big deal because it means we need to find new ways to secure our information. That's where Post-Quantum Cryptography (PQC) comes in. PQC is about developing new methods that can stand up to the power of quantum computers. Organisations like NIST are working hard to make these new methods standard, showing us how important this is.

I'll also talk about how this new kind of cryptography can be used in real life. For example, it can help keep our communications safe and protect important systems from cyber attacks. I'll touch on when we might start seeing quantum computers being used more commonly and how we should get ready for this change.

To make this easier to understand, I'll include a simple example of how a quantum computer can affect the way we protect data. This will help everyone get a better idea of why this topic is so important.

In summary, my talk will show how quantum computing is not just a cool new technology, but it's also something we need to consider seriously when it comes to protecting our online world. I'm looking forward to sharing these ideas and getting people excited about what's coming in the future of computing and cybersecurity.

Moreover, I want to highlight how learning about quantum computing and its impact on cybersecurity is super important for everyone, not just tech experts. As we use the internet more and more in our daily lives, understanding these changes can help us all stay safer online. By the end, I hope to spark a curiosity in you about how technology is changing and why we should all pay attention to these exciting developments in the world of computing.

I would be grateful for 10 minutes of time for my presentation.

Short Bio

As a final-year B.Tech Computer Science student specialising in systems and core computing, I bring a diverse skill set encompassing machine learning, artificial intelligence, and cybersecurity. My academic and project experiences have nurtured my passion for collaborative problem-solving and team-oriented projects. I am proficient in C++, Python, Linux, and Git. I am interesed in pursing higher education abroad. I have a natural interest towards Quantum Computing and would like to pursue my specialisation in the same field of study.

Author Registration Details

Name of the author : Rohan C
Name of the conference : NLP'23 - CoCoNet'23
Name of the track : Track 2 - Computing
Paper Title : Mental Health in the Digital Era-NLP Models for Depression and Suicidal Tendency Detection
EDAS Paper ID : #141 (1570967132)

Date Preference

I would prefer the date 18th December 2023 for the presentation.