# Weekly Report (Summary and Content)

## Summary

Industrial IoT in the Quantum Age: Machine Learning and Cryptography for Secure Operations Presenter: Esmot Ara Tuli 9Th Sep Who AM I Esmot Ara Tuli Kumoh National Institute of Technology Post Doctoral Researcher at ICT-Convergence Research Center Metaverse, Quantum Machine Learning, Blockchain, Quantum Cryptography Home IIoT Quantum ML Cryptography Quantum Computing Research Direction Home IIoT Quantum Computing Quantum ML Cryptography Research Direction Table of contents 01 Home 02 IIoT Title of the seminar topic Definition of IIoT 03 Quantum Computing Overview of quantum computing 04 Quantum ML 05 Cryptography 06 Research Direction Basic idea of quantum machine learning Overview of quantum cryptography Current Problem and research scope Home IIoT Quantum ML Cryptography Quantum Computing Research Direction Home IIoT Quantum Computing Quantum ML Cryptography Research Direction Introduction IIoT Security Basic ideal about QML and application in IIoT Quantum security in IIoT and others Home IIoT Quantum ML Cryptography Quantum Computing Research Direction Home IIoT Quantum Computing Quantum ML Cryptography Research Direction 02 IIoT Home IIoT Quantum ML Cryptography Quantum Computing Research Direction Home IIoT Quantum Computing Quantum ML Cryptography Research Direction Internet of Things (IoT) IoT IIoT IoMT IoV Others Home IIoT Quantum ML Cryptography Quantum Computing Research Direction Home IIoT Quantum Computing Quantum ML Cryptography Research Direction IIoT Requiremnt 1. And Others Home IIoT Quantum ML Cryptography Quantum Computing Research Direction Home IIoT Quantum Computing Quantum ML Cryptography Research Direction IIoT Enabling Technologies Cyber-physical system (CPS) Machine-to-Machine Communication (M2M) Blockchain Cloud Computing Artificial Intelligence(AI) Big Data and Data Analytics Internet of Things (IoT) Digital-Twins M. Wei, "Industrial Internet of Things: Requirements, Architecture, Challenges, and Future Research Directions," in IEEE Access, vol. 66374-66400, 2022, doi: 10.1109/ACCESS.2022.3185049. Home IIoT Quantum ML Cryptography Quantum Computing Research Direction Home IIoT Quantum Computing Quantum ML Cryptography Research Direction 03 Quantum Computing Home IIoT Quantum ML Cryptography Quantum Computing Research Direction Home IIoT Quantum Computing Quantum ML Cryptography Research Direction Quantum Bits(qubits) Entanglement Superposition Quantum Computing Methods Gate-Based: IBM, Google, Rigetti Quantum Annealing: D-Wave Home IIoT Quantum ML Cryptography Quantum Computing Research Direction Home IIoT Quantum Computing Quantum ML Cryptography Research Direction 04 Quantum ML Home IIoT Quantum ML Cryptography Quantum Computing Research Direction Home IIoT Quantum Computing Quantum ML Cryptography Research Direction Quantum ML in IIoT 1.

## Main Content

Key Sections:

* Industrial IoT in the Quantum Age
* Machine Learning and Cryptography
* Presenter: Esmot Ara Tuli
* Sep
* Who AM I
* Esmot Ara Tuli
* Kumoh National Institute of Technology
* Post Doctoral Researcher at ICT-Convergence Research Center
* Home
* IIoT

Important Points:

* Security
* Reliability
* Mission Critical
* Organization Standard
* And Others
* Cyber Security
* Sensor Data Processing
* Predictive Maintanance
* Analytics and Decision-Making
* Substitution Cipher
* Public Kay Cryptography (Rivest-shamir-
* Digital Signature Algorithm