

About Me

Name: Tahir Ahmad

Position: Professor and Head of Department

Department: Computer Science

Research Interests: Cyber security, Cloud computing, Internet of Things, Internet measurements

Biography:

- Over 18 years of research and teaching experience in national and international R&D organizations and Universities.
- Strong research professional with a Doctor of Philosophy - Ph.D. focused on Distributed System Security from Università degli Studi di Genova.



Proposed FYP Ideas

- Cluster 3 (IoT, Computer Networks, Cybersecurity, Cloud Computing)

Project Idea 1

Title: A secure blockchain-based Incentive mechanism for efficient water management

Introduction: This project aims to develop a blockchain-based incentive mechanism to promote efficient water management practices among farmers. By integrating IoT devices to monitor water usage and implementing smart contracts to reward virtuous behaviours, the system will encourage sustainable agricultural practices. The project will focus on designing and developing a decentralized system where real-time data from IoT sensors is recorded on a blockchain, ensuring transparency, security, and trust.

Objectives:

- Analyze the current water management practices in agriculture and identify inefficiencies.
- Develop an IoT-based monitoring system to collect real-time data on water usage.
- Design a blockchain framework to record water usage data and implement smart contracts.
- Develop an incentive mechanism to reward farmers for efficient water usage.
- Test and evaluate the system's effectiveness in promoting sustainable water management practices.

Skills/Tools Required: Blockchain development and smart contract, IoT system design and implementation, and Programming skills in Python and Solidity.

Commercialization Aspect: Irrigation department, PDMA
