Seoul National University of Science and Technology

Computer Science & Engineering

Ubiquitous **C**omputing **S**ecurity **Lab**oratory

http://ucs.seoultech.ac.kr/

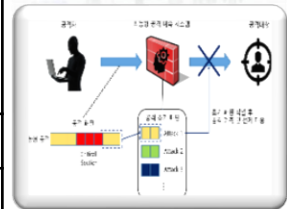# UCS Lab Overview and Fields

Lab Overview

- **Supervisor : Prof. Jong Hyuk Park**
- **Korea / Waseda University Doctor**
- **Vice President, Korea Information Proc.**
- **International Top Journal SCI/SCOPUS Editor Chair**

- **Researchers (12 students)**
  - **Ph.D. : 5 students (3 part time)**
  - **M.S. : 5 students**
  - **U.S. : 2 students**

- **Discharge : 12 Master's / Ph.D.**

- **Main research area**
- **IoT (Internet of Things) SW & Service**
- **Deep learning based intelligent security service**
- **Cloud / IoT / Big Data Security**
- **Blockchain Security**
- **Smartphone security**
- **Digital forensics**
- **Cloud computing**
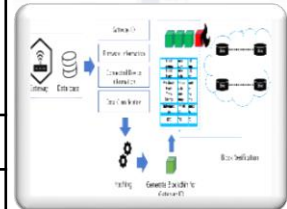- **Network and system security**

Research Performance

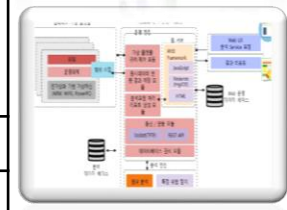| Project Title	A Study on Smart City Network Architecture of Deep Learning Based Blockchain Distributed Environment
Period	2019-06-01 ~ 2022-02-28 (33month)
Support Org.	Korea Research Foundation

Project Title	Deep learning based attack prediction and advanced response technology research on advanced threats
Period	2018-02-01 ~ 2021-01-31 (36month)
Support Org.	SNUST

Project Title	Blockchain-based Smart Home Gateway Architecture for Data Forgery Prevention
Period	2019-09-01 ~ 2020-08-31 (12month)
Support Org.	SNUST

Project Title	Development of detection and prevention solution based on heterogeneous Linux malware
Period	2018-04-01 ~ 2019.12.31 (21month)
Support Org.	Ministry of Science and ICT

UCS Lab Performance &Support

Research performance

❖ **Outstanding research performance**

    -Top 1% thesis published in the world's best journals

- DistBlockNet: A Distributed Blockchains-Based Secure SDN Architecture for IoT Networks, IEEE Communications Magazine
- SLP-MCAF: Multiple Clusters of Connected Vehicles Authentication Framework in a Smart Life Platform, IEEE Communications Magazine
- SoftEdgeNet: SDN Based Energy-Efficient Distributed Network Architecture for Edge Computing, IEEE Communications Magazine

박종혁교수, 세계 상위1% 매거진(IEEE Comm.)에 논문 게재

서울과학기술대학교 컴퓨터공학과 박종혁 교수(사진)가 관련분야의 세계 상위 1% 매거진인 'IEEE Communication 매거진 9월호'에 논문을 게재하였다.

박종혁 교수는 박사과정의 프라딥 쿠마르 샤르마(Pradip Kumar Sharma) 씨 등과 함께 'IoT 네트워크를 위한 분산된 블록체인 기반의 보안 SDN 아키텍처 (DisBlockNet: A Distributed Blockchains-d Secure SDN Architecture for IoT Networks)'라는 제목의 논문을 통해 최근 화두로 떠오르는 4차 산업혁명의 핵심 기술 중 하나인 IoT와 블록체인 기술을 활용한 안전하고 효율적인 분산 네트워크 구조를 제안하였다.

❖ **Award performance**

- 2018, Best Paper Award, A Fog Computing-based Automotive Data Overload Protection System with Real-Time Analysis, BIC 2018
- 2018, Best Paper Award, Clustering Based Blockchain for Efficient Management and Production Smart Farming System, MUE 2018
- 2017, Academic awards, Smart home authentication technology analysis and service model proposal, Information Processing Society

Lab graduate employment

- **Korea Telecommunications**

            Technology Association (TTA)

- **National Security Research Institute (NSR)**
- **Agency for Defense Development (ADD)**
- **National Cancer Center Security Team**
- **Ahn Lab**
- **Other security companies**

UCS Lab Performance &Support

Research system / plan

- Group research by project team
- Master and Doctor Mentoring Islands
- Joint research with other universities
- International conference presentation
- Publication of the world's best journal

Lab activity

- **Team Seminar twice a week**
  - Latest Technology / Theory-Common and Outline Topics
  - Language exchange with foreign students (English)
- **Participation in domestic and international academic conferences**
  - Domestic and international presentation experience and world culture experience
- **Workshop during vacation**
  - Exchange with lab graduates

Highest level research support

- **Full tuition + living expenses support**
- **Presentation of domestic and foreign academic conferences and full support for participation**
- Incentive payment for publication of excellent papers
- Industry-university cooperation and government project participation and support
- SCI thesis publication registration cost support
- Support participation in the latest research technology workshops and educational programs
- After graduation, support for the latest research in Korea and linkage to industrial employment

Doctoral Program

- If you wish to go to a foreign university, you can apply for recommendation (USA, Japan, etc.)
- doctoral programs available for overseas universities