List of Dissertation Abstract (Information Media and Environment Sciences)

Name	Supervisor	Title	Abstract
Ying TIE	Tsutomu MATSUMOTO	A Study on Observation and Analysis of Cyber Attack in IoT	While IoT has the advantage of creating new value in society, there is a safety problem. Given that IoT cyber-attacks are getting worse, it is prudent to analyze IoT botnet's current state and behavior. Thus, this paper describes the study on observation and analysis of IoT cyber-attacks to come up with countermeasures against it.
Amonrat PRASITSUPPAROTE	Junji SHIKATA	A Study on Implementation and Analysis of Cryptographic Algorithms for Resource-constrained Devices	This thesis particularly focuses on two security issues on key generation and privacy preserving in resource-constrained devices. The empirical results showed that Peres's extractor is much better than Elias's extractor for given finite input sequences under a very similar running time, therefore, Peres's extractor would be more suitable to generate uniformly random sequences in key generation process for resource-constrained devices. Moreover, this work expressed the practical feasibility of FHE in resource-constrained devices for healthcare systems, both HElib and SEAL can be used on resource-constrained devices in general setting, however, SEAL would be more suitable for practical use from this analysis.
Masahiro NISHIZAWA	Katsunori OKAJIMA	A Study on Adaptive Visual Reproduction of Surface Using Projective Augmented Reality	To develop a surface appearance simulator by using a projective Augmented Reality, we proposed an online method for estimating the projected surface reflectance precisely. Next, we found that the blurring of projected images is one of the critical factors of the judgement whether it is a projection or an actual surface. In addition, we proposed a new method which can control the spectral distribution of lights by considering ipRGCs and rods as well as cones. Finally, we conducted crossmodal experiments on food perception, and showed that we can modulate the taste of foods by using the system we developed.