USEEK8 - Advanced Experimental Projects

Mis à jour le 24-02-2025

Code : USEEK8

Unité spécifique de type cours

6 crédits

Responsabilité nationale :
EPN03 - Electroniques, électrotechnique, automatique et mesure (EEAM) / Stefano SECCI

Contact national :
EPN05 - Informatique
2 rue Conté
33.1.13A
75003 Paris
01 40 27 28 49
Mariella Annicchiarico
mariella.annicchiarico@lecnam.net

Présentation

Prérequis

USEEJ6 (Telecommunication Networks); USEEJ7 (Networks - Complements and Applications); USEEK7 (Network Security); Mobile Wireless Networks (USEEJ8)

Objectifs pédagogiques

Experiment and acquire novel network technologies using testbed and emulation platforms, technologies recently adopted un enterprise, data-center, personal, deployable and Internet network architectures.

Programme

Contenu

The proposed projects consist in the design and experimentation of a software network application, in the emulation of an advanced realistic novel network setting, in the deployment of an experimental network platform. The projects are an opportunity for the participants to acquire a team working experience, project management, technical report writing, oral presentation, and to acquire valuable experience on novel network technologies.

Every project is advised by a responsible and the evaluation is individualized by the evaluation committee. The participants have to form groups and directly contact the course response and the tutors of the projects they are interested in, based on a published list.

The projects can cover the following subjects :

- Software networks and virtualization : NFV (Network Functions Virtualization) protocols and architectures, Cloud IaaS (Infrastructure as a Service), SDN (Software Defined Networking), their orchestration and platforms.
- IoT (Internet of Things) and embedded systems, protocols, orchestration and their network and cloud integration.
- Network security : protocols, anomaly detection, attack emulation, evaluation of attack mitigation strategies.
- Wireless and mobile networks : WiFi and its evolutions, cellular networks, sensor networks and protocols.

Modalités de validation

- Projet(s)
- Examen final

Description des modalités de validation

The participants have to prepare a pre-formatted mid-term report after 2 months and defend its content during a mid-term defense. The report will then be extended and the project work defended in the final defense. Both reports and both defenses will be evaluated. A final exam is an individual assessment of the project experience.

Bibliographie

Titre	Auteur(s)
Computer Networking: Principles, Protocols and Practice,	Olivier Bonaventure