



Fall 2019 CIIC/INSO Advanced Courses

CIIC 5995. Introduction to Machine Learning Algorithms and Applications

Prerequisites: CIIC 3011 or INGE 3016 and ININ 4010

MJ 5:00-6:15 PM

Dr. Heidi Sierra (Heidy.Sierra1@upr.edu)

This course will introduce the fundamentals of machine learning including the following topics: supervised learning (Naïve Bayes, Linear regression, Support Vector Machines, and Neural Networks), unsupervised learning, cluster analysis, adaptive and reinforcement learning. The course will also discuss recent publications on innovative solutions coming from industry and academia for applications such as data processing in various fields such as biomedical and remote sensing.

CIIC 5019/ICOM 6025. High Performance Computing

Prerequisites: CIIC 4020 or ICOM 4035

MJ 2:00 - 3:15 PM

Dr. Wilson Rivera (wilson.riveragallego@upr.edu)

Study of the fundamental concepts associated with the performance of a computing system. Discussion of techniques for the reduction of operations with the aim of minimizing the response time of a system to problems whose solution poses a high demand of computational resources. Study of parallelization, and concurrency strategies, and practical experiences with the use of systems and tools implementing them.

ICOM 5018 / CIIC 5018. Cryptography and Network Security

Prerequisites: CIIC 4050 or ICOM 5007

LWV 12:30- 1:20 pm

Dr. Kejie Lu (kejie.lu@upr.edu)

Theoretical and practical aspects of computing systems and network security, threat models, system vulnerability to attacks such as: hackers, malicious code, Trojan horses, viruses, and worms, cryptographic techniques used to defend systems from such attacks.

CIIC 5995 / ICOM 5995. Algorithmic Thinking in Problem Solving: Cracking the Coding Interview

Prerequisites: CIIC 4020 or ICOM 4035

W 12:30 pm - 2:20 pm

Dr. Nayda Santiago (nayda.grisel.santiago@gmail.com)

The goal of the course is to achieve the following objectives:

- Provide practice on solving problems employers use during *real* interviews. *Cracking the Coding Interview* by *Gayle Laakmann McDowell* will be the primary source of reference problems.
- Assist students in the development of analytical, coding, and communication skills.
- Help students build strong computer science and problem solving fundamentals that can be applied to *real* interview and industry problems.