



Cambridge, UK
Location

IoT & Data Science Bootcamp
19th August - 6th September 2019
Hughes Hall College
Cambridge, UK

SCHEDULE

Università Campus Bio-Medico di Roma
Organizer

WEEK 1 - IoT and rapid prototyping									
Time	Monday - 19 aug	Tuesday - 20 aug	Wednesday - 21 aug	Thursday - 22 aug	Friday - 23 aug	Saturday - 24 ago			
09:00	11:00	LECTURE (Prof. Kabla/Prof. Forni) Programming the microcontroller; Memory; Interrupt.	LECTURE (Prof. Kabla/Prof. Forni) Collecting data from a sensor dati da sensore; I2C bus; Temperature sensor; Other sensors for industrial projects (ECG, ...).	LECTURE (Prof. Kabla/Prof. Forni) Actuators; Heat generator: open and closed loops to control heat production; Project of a controller; Introduction to control theory for systems with feedback.	TRANSFERABLE SKILLS TRAINING (Dr Wyn Story): Project Management & Creativity	Self study and project working			
11:00	11:30						Break		
11:30	13:00						LAB (no Tutor)	LAB (no Tutor)	LAB (no Tutor)
13:00	14:00	Lunch							
14:00	15:15	LECTURE (Prof. Kabla/Prof. Forni) Getting started. Introduction to ARM microcontroller: basics of C programming	LAB (with Tutor)	LAB (with Tutor)	LAB (with Tutor)		TRANSFERABLE SKILLS TRAINING (Dr Wyn Story): Project Management & Creativity		
15:15	15:30	Break							
15:30	17:00	LECTURE (Prof. Kabla/Prof. Forni) Microcontroller-computer interface: serial port and exchanging data using Python	LAB (with Tutor)	LAB (with Tutor)	LAB (with Tutor)		Project working		
17:00	17:30	Break							
17:30	19:00	LAB (no Tutor)	Project working	Project working	Project working	Project working			
WEEK 2 - Data Visualisation, machine learning and big data									
Time	Monday - 26 aug	Tuesday - 27 aug	Wednesday - 28 aug	Thursday - 29 aug	Friday - 30 aug	Saturday - 31 aug			
09:00	11:00	LECTURE (Prof. Soda) Importing and exporting data Data wrangling; Exploratory data analysis - descriptive statistics and correlation; linear and logistic regression"	LECTURE (Prof. Soda) Support Vector Machines, Decision trees and Random Forest, kNN	LECTURE (Prof. Soda) Clustering	TRANSFERABLE SKILLS TRAINING (Dr Wyn Story): Self-awareness & Team Working	Self study and project working			
11:00	11:30						Break		
11:30	13:00						LECTURE (Prof. Soda) Design an experiment and measure the performance	LAB (no Tutor)	LAB (no Tutor)
13:00	14:00	Lunch							
14:00	15:15	LECTURE (Prof. Soda) Numpy, Pandas and Scikit learn - an overview	LAB (with Tutor)	LAB (with Tutor)	LAB (with Tutor)		TRANSFERABLE SKILLS TRAINING (Dr Wyn Story): Self-awareness & Team Working		
15:15	15:30	Break							
15:30	17:00	LAB (no Tutor)	LAB (with Tutor)	LAB (with Tutor)	LAB (with Tutor)		Project working		
17:00	17:30	Break							
17:30	19:00	Project working	Project working	Project working	Project working	Project working			
WEEK 3 - Hackathon (industry real-life case-studies)									
Time	Monday - 02 sept	Tuesday - 03 sept	Wednesday - 04 sept	Thursday - 05 sept	Friday - 06 sept	Saturday			
09:00	11:00	TRANSFERABLE SKILLS TRAINING (Dr Wyn Story): Presentation Skills	Project working	TRANSFERABLE SKILLS TRAINING (Dr Wyn Story): Presentation rehearsals and feedback					
11:00	11:30						Break		
11:30	13:00						Project working	Project working	Project working
13:00	14:00	Lunch							
14:00	15:15	Project working	Project working	Project working			CLOSING SESSION Group Pitch Sessions and Jury Pannel		
15:15	15:30	Break							
15:30	17:00	Project working	Project working	Project working					
17:00	19:00	Project working	Project working	Project working					
					Formal Dinner and Award Ceremony				