

# IoT & AI for Frugal Innovation Bootcamp - 6<sup>th</sup> Edition | 26 August - 13 September 2024\*

\* Participants are expected to attend the Welcome Drinks on 25<sup>th</sup> August at 18:00 at Jesus College.

WEEK 1							
Time		Monday - 26 August Jesus College - Sibilla Room	Tuesday - 27 August Computer Laboratory - William Gates Building	Wednesday - 28 August Jesus College - Sibilla Room	Thursday - 29 August Computer Laboratory - William Gates Building	Friday - 30 August Computer Laboratory - William Gates Building	Saturday - 31 August Jesus College - Sibilla Room
09:00	11:00	<b>OPENING SESSION</b> 09:00am Opening 09:30am Use Cases Presentations	<b>LECTURE AI 1 - Prof. Liò</b> From Reinforcement Learning to Robotics	<b>TRANSFERABLE SKILLS TRAINING</b> Self-awareness and Team Working	<b>LECTURE AI 2 - Prof. Liò</b> Graphs, Hypergraphs, Graph Neural ODEs	<b>LECTURE AI 3 - Prof. Liò</b> From Transformers to Language Models	<b>TRANSFERABLE SKILLS TRAINING</b> Self-awareness and Team Working
11:00	11:30	Break					
11:30	13:00	Opening Lecture Prof. Leandro Pecchia	<b>LECTURE AI 1 - Prof. Liò</b>	<b>TRANSFERABLE SKILLS TRAINING</b>	<b>LECTURE AI 2 - Prof. Liò</b>	<b>LECTURE AI 3 - Prof. Liò</b>	<b>TRANSFERABLE SKILLS TRAINING</b>
13:00	14:30	Lunch					
14:30	17:00	<b>USER-CENTRIC DESIGN &amp; INNOVATION WORKSHOP</b> Flora Macleod IBM	<b>AI LAB</b> Mastering Neural Networks: Hands-On Libraries and Best Practices	<b>FRUGAL INNOVATION</b> Prof. Davide Piaggio Framework, design criteria, use cases, challenges and opportunities.	<b>AI LAB</b> Graph Power: Deep Learning for Complex Structures	<b>AI LAB</b> Language Models: Training Strategies and Prompt Engineering	Teamwork
17:00	17:30	Break					
17:30	19:00	Teams Formation and Hardware Kit Presentation	Teamwork	Teamwork	<b>INDUSTRY PARTNER TUTORS</b>	Teamwork	Teamwork
WEEK 2							
Time		Monday - 2 September Department of Engineering - Baker Building	Tuesday - 3 September Department of Engineering - Baker Building	Wednesday - 4 September MakeSpace	Thursday - 5 September Department of Engineering - Baker Building	Friday - 6 September MakeSpace	Saturday - 7 September Jesus College
09:00	11:00	<b>LECTURE IoT1 - Prof. Kabla</b> Programming the microcontroller; Memory; Interrupt	<b>LECTURE IoT2 - Prof. Kabla</b> Collecting data from sensors; I2C BUS; temperature sensor; Other sensors for industrial projects	<b>FRUGAL INNOVATION</b> Prof. Davide Piaggio Design for 3D printing: from CAD modelling to 3D printing.	<b>LECTURE IoT3 - Prof. Kabla</b> Actuators; Heat generator: open and closed loops to control heat production; Project of a controller; Introduction to control theory for systems with feedback.	<b>BUSINESS MODEL CANVAS</b> Intesa Sanpaolo	Teamwork
11:00	11:30	Break					
11:30	13:00	<b>LECTURE IoT1 - Prof. Kabla</b>	<b>LECTURE IoT2 - Prof. Kabla</b>	<b>FRUGAL INNOVATION</b> Prof. Davide Piaggio	<b>LECTURE IoT3 - Prof. Kabla</b>	<b>LECTURE IoT-AI on the Edge:</b> STMicroelectronics inference tools	
13:00	14:30	Lunch					
14:30	17:00	<b>IoT LAB</b>	<b>IoT LAB</b>	<b>TRANSFERABLE SKILLS TRAINING</b> Team Values and Project Management	<b>IoT LAB</b>	Teamwork	
17:00	17:30	Break					
17:30	19:00	Teamwork	Teamwork	Teamwork	<b>INDUSTRY PARTNER TUTORS</b>	<b>TRANSFERABLE SKILLS TRAINING</b> Teambuilding Activity	
WEEK 3							
Time		Monday - 9 September Jesus College - Sibilla Room	Tuesday - 10 September Jesus College - Sibilla Room	Wednesday - 11 September Jesus College - Webb Library	Thursday - 12 September Jesus College - Webb Library	Friday - 13 September Jesus College - Webb Library	
09:00	11:00	Teamwork	Teamwork	<b>TRANSFERABLE SKILLS TRAINING</b> Presentation rehearsals and feedback	Teamwork	Teamwork	
11:00	11:30	Break					
11:30	13:00	Teamwork	Teamwork	<b>TRANSFERABLE SKILLS TRAINING</b> Presentation rehearsals and feedback	Teamwork		
13:00	14:30	Lunch					
14:30	17:00	<b>TRANSFERABLE SKILLS TRAINING</b> Presentation Skills	<b>GREEN DESIGN AND MANUFACTURING</b> Prof. Kinda Khalaf	<b>TECH SOLUTION CLINIC</b> Emilio Billi A3Cube	<b>INNOVATION &amp; COMPLEXITY</b> Roundtable Discussion	<b>PITCH DAY &amp; JURY PANNEL</b>	
17:00	17:30	Break					
17:30	19:00	<b>Consulting Session with Subject Expert</b>	<b>Consulting Session with Subject Expert</b>	<b>Consulting Session with Subject Expert</b>	<b>INDUSTRY PARTNER TUTORS</b>		
	19:00	<b>GALA DINNER &amp; AWARD CEREMONY</b>					