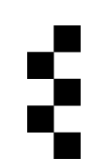# Computer Science and Electronic Engineering (CSEE)
University of Essex (Mays AL-Naday)

Introduction

Me: Associate Prof. in edge-cloud services, networks and their cybersecurity (*sustainability, Energy*)

CSEE & IADS

- **AIOTI and 6G-IA full research member**
  - Active in WGs/FGs: Energy, Security & Privacy, Testbeds and Vision
- **Top University in Knowledge Transfer Partnerships (£10+M portfolio)**
- **Active FP7→HE: 5 HE projects in 2023, 2024**
- **9th in UK for research impact, 6th for research power (REF 2021)**
- **Research groups, labs and testbeds:**
  - **AI** (Analytics and Data Science, NLP): **iSpace**, smart living and wellbeing flat (TRL5+)
  - **Comnet** (edge-cloud, SDN, IoT)**: NCL,** edge-cloud ecosystem (TRL5). 3 other labs for access, wireless & optoelectronics
  - **Robotics & Embedded Systems** (iCPS, Agritech): **robo-Agritech facility,** soft fruit harvesting and food handling (TRL 6), **Embedded and Intelligent System Lab**, processor based non-intrusive software diagnostics (TRL9)
  - **BCI** (health and clinical networks): **BCI-NE lab,** for brain stimulation and measurement system (TRL5+)
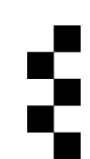
DATA-01-05

- ## Novel Challenges:

  - Context-tailored decentralized AI orchestration

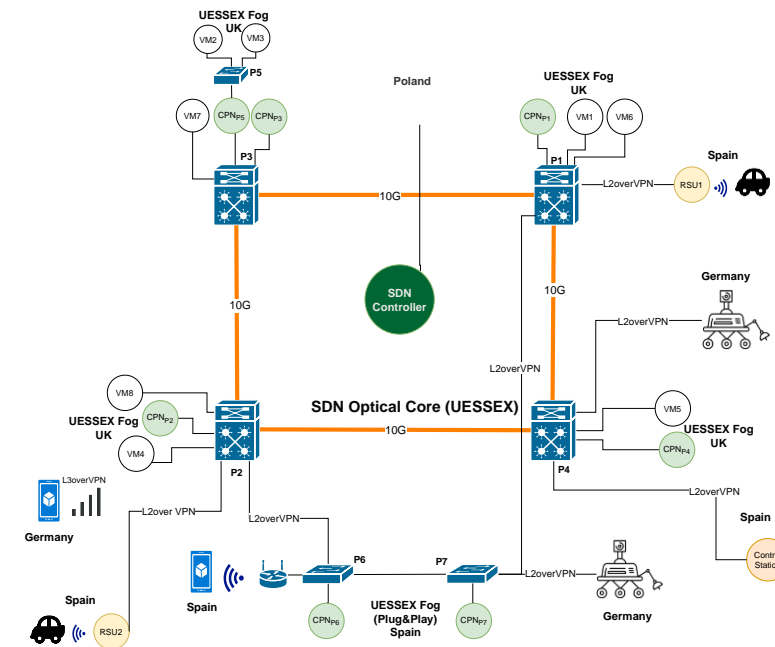 - Energy/sustainability: data volumes vs knowledge
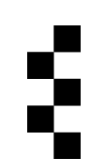
- ## Dissemination:

  - White papers in AIOTI and others (sustainability, Energy)

  - Experience in organising scientific & innovation events

- ## Example Usecases (TRL-5):

  - Own: Edge-cloud dataspaces, agritech, sports/human-performance

  - Colab: Energy, manufacturing, wellbeing

- ## Next: get in touch → meet → concept

University of Essex

EMERGING-01-21

- **Technical:**
  - RISC-V multi-core
  - Heterogeneous SoC and FPGA based systems
  - Authentication and device identify
  - Controllable hardware costs and power consumption per task
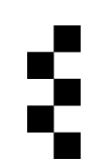- **Testbed & Integration**
  - SotA EIS facility for processor based non-intrusive diagnostic
  - Hardware Prototyping
- **Usecases (TRL 5+):**
  - Own: Industry4.0/5.0, Agritech
  - Colab: subject to discussion
- **Next: Get in touch → directed to EIS → meet → concept**

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EMERGING-01-22

- ## Technical:

  - Microservices distribute software system reliability & resiliency

  - Microservices dynamic system composition (functional/non-functional, secure-by-design)

  - AI-assisted fault prediction and self-healing
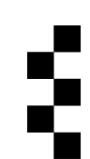
  - Non-intrusive diagnostic

- ## Testbed and Integration

  - NCL: SotA infrastructure for rapid deployment and testing

- ## Usecases (TRL5+)

  - Variety: open to discuss

- ## Next: get in touch → meet → concept

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Contacts

- ## Dr. Mays AL-Naday to direct you to the right team

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  - Webpage: https://www.essex.ac.uk/people/ALNED81405/Mays-Al-Naday

  - CSEE: https://www.essex.ac.uk/departments/computer-science-and-electronic-engineering

- ## Linkedin:

  - CSEE: https://www.linkedin.com/showcase/computer-science-and-electronic-engineering/

  - Mays: www.linkedin.com/in/mays-al-naday