



Julien Soulé

1st year PhD student
working in Multi-Agent
Systems for Cyberdefense



LCIS



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EDUCATION

Université Grenoble Alpes (UGA)

PhD - "On Organization of a Cyberdefence Multi-Agent System (AICA)"

JUL 2022 - PRESENT

- **Laboratoire de Conception Intégration des Systèmes (LCIS)**
- **Supervisors:**
 - Jean-Paul Jamont (professor at UGA)
 - Michel Ocelllo (professor at UGA)
 - Louis-Marie Traonouez (Thales La Ruche, Land Air Systems)
 - Paul Théron (AICA IWG)
- **Keywords:** Multi-Agent Systems Organizations, Cyberdefense, Multi-Agent Reinforcement Learning, Software Architecture

Ecole de Technologie Supérieur, Montréal (Canada)

One study semester in Computer Engineering

JAN 2019 - MAY 2019

Institut National des Sciences Appliquées (INSA), Rennes

Master's degree in Computer Engineering

2015 - 2020

PROFESSIONAL EXPERIENCE

Thales (La Ruche), Rennes — Research Engineer

DEC 2021 - JUN 2022

- Study on multi-agent aspects and integration within "La Ruche" context in order to explore modeling cyber environments and anomaly detections.

Atos, Toulouse — Software Engineer

AUG 2020 - SEP 2021

- Continuation of *ISIS* project developments with more interactions with the *CNES*.

Atos, Toulouse — Software Engineer Internship

JAN 2020 - JUL 2020

- Worked on development of the *ISIS* project for the *CNES* (*Centre National d'Etude Spatial*).
- Product line to handle launching and monitoring of new satellites from *Control and Command* centers.
- **Tools:** Python / Bash, KVM, Grafana, Django...

SQLI, Toulouse — Mid Software Engineer Internship

MAY 2019 - JUL 2019

- *Airbus Helicopter* projects within different aspects: security, maintenance, development...

ADDITIONAL EXPERIENCES

BattleCode (Sopra Steria), Rennes

Meet several coding challenges in teams

MAR 2017

PROJECTS

Multi Cyber Agent Simulator (MCAS) – Methodological tools for PhD

DEC 2022

Created a Proof-Of-Concept project aiming to simulate (and emulate) cyber-defender and cyber-attacker agents “fighting” in host nodes in a network. Main interest is to reproduce real known attacks in a realistic way and learn from the assessment of several cyberdefense multi-agent system organizations against these.

Tools: Flask, Angular, PettingZoo, CybORG, HTML/CSS...

COMMUNICATIONS

National Conferences

- Soulé, J., Jamont, J.-P., Occello, M., Théron, P., & Traonouez, L.-M. De l'Organisation des Systèmes Multi-Agents de Cyberdefense. RESSI 2023.
- Soulé, J., Jamont, J.-P., Occello, M., Théron, P., & Traonouez, L.-M. De l'Organisation des Systèmes Multi-Agents de Cyberdefense. RJCIA 2023.

International Conferences

- Soulé, J., Jamont, J.-P., Occello, M., Théron, P., & Traonouez, L.-M. Towards a Multi-Agent Simulation of Cyber-attackers and Cyber-defenders Battles. IEEE SMC 2023.

Poster Presentations

- Soulé, J., Jamont, J.-P., Occello, M., Théron, P., & Traonouez, L.-M. De l'Organisation des Systèmes Multi-Agents de Cyberdefense. JFSMA 2023.

Oral Presentations

- Talk for the CybAIR NATO Chair. École de l'air et de l'espace. MAR 2023
 - Presentation of my PhD topic and discussions
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RESPONSIBILITIES

Treasurer of the *Autonomous Intelligent Cyberdefence Agent International Work Group (AICA IWG)*

MAY 2023 - PRESENT

TEACHING EXPERIENCES

Teaching Assistant, Valence

JAN 2023 - MAR 2023

- Basics of system administration
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SKILLS

French

- Native

English

- Professional (910 TOEIC)