# Julien Soulé

2nd year PhD student
working in Multi-Agent
Systems for Cyberdefense

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## EDUCATION

### *Université Grenoble Alpes (UGA)*

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

JUL 2022 - PRESENT

- **Laboratoire de Conception Intégration des Systèmes (LCIS)**
- **Supervisors:**
  - Jean-Paul Jamont (professor, UGA)
  - Michel Occello (professor, 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

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## PROFESSIONAL EXPERIENCE

### Thales (La Ruche), Rennes — Research Engineer

DEC 2021 - JUN 2022

- Study on multi-agent aspects and integration within *La Ruche* (*Thales, Land Air Systems*) 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

### [Cyberdefense MAS Development Environment (CybMASDE)](#) — 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

### 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.
- Soulé, J., Jamont, J.-P., Occello, M., Théron, P., Traonouez, L.-M. A MARL-based Approach for Easing MAS Organization Engineering. AIAI 2024.

### 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.
- Soulé, J., Jamont, J.-P., Occello, M., Théron, P., Traonouez, L.-M. Un Outil pour la Conception de SMA par Apprentissage par Renforcement et Modélisation Organisationnelle. JFSMA 2024
- Soulé, J., Jamont, J.-P., Occello, M., Théron, P., Traonouez, L.-M. Une Approche basée sur l'Apprentissage par Renforcement pour l'Ingénierie Organisationelle d'un SMA. JFSMA 2024

### 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

## 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

MAR 2023 - APR 2023
- Basics of Operating Systems and Process Management

## SKILLS

### French

- Native

### English

- Professional (910 TOEIC)