



| | | | | | |
|---|----------------------|--------------------|----|------------|---|
|  | IRT | SystemX | | |  |
| | Project | Confiance.ai – EC1 | | | |
| | DEMONSTRATOR OVER UC | | | | |
| | From | 2021-01-01 | TO | 2023-12-31 | Page 1/14 |
| CONFIDENTIAL | | | | | |

| | |
|---------------------------|---|
| Project brief description | EC1 integrates, in a Trustworthy environment prototype, the revisit of classical engineering in view of the effects induced by the usage of AI within critical systems. It federates the integration of technological components developed by the other projects of Confiance within the Trustworthy environment by specifying interoperability, deployment and usage constraints, in consistency with recommendations delivered by projects EC2 and EC6. |
|---------------------------|---|

IRT Accountable

| Last Name, First Name | Function | Email | Phone |
|-----------------------|----------|-------|-------|
| | | | |
| | | | |

IRT Approvers (Internal)



| Last Name, First Name | Function | Email | Phone |
|-----------------------|----------|-------|-------|
| | | | |
| | | | |
| | | | |

Modifications history

| Version | Date | Comments |
|---------|------|----------|
| | | |
| | | |

Authors

| First Name, Last Name | Entity |
|-----------------------|-------------|
| Josquin Foulliaron | IRT SystemX |
| Fabien Tschirhart | IRT SystemX |
| | |
| | |
| | |

| | | | | |
|---|----------------------|--------------------|----|---|
|  | IRT | SystemX | |  |
| | Project | Confiance.ai – EC1 | | |
| | DEMONSTRATOR OVER UC | | | |
| | From | 2021-01-01 | TO | 2023-12-31 |
| CONFIDENTIAL | | | | |

Confiance AI - Project EC1

Deliverable 1.4.4.3

DEMONSTRATOR OVER UC

1. INTRODUCTION

1.1. Program context

The goal of Confiance.AI program is to address the multiples challenges that arises from the integration and the use of artificial intelligence processes in critical systems. The program will deliver an environment, the Trustworthy environment; a set of interoperable technological components, each one covering one or several of the specific challenges previously outlined. This environment will be articulated as instantiable tool chains whose use will be defined in a set of methodological guidelines. It will allow the design, the development, the validation of artificial intelligence modules prior to their integration and support into critical systems.

1.2. Project EC1

Among the seven projects that make up the Confiance.AI program, project EC1 “Federative Environment” holds the specific task of federating the work and results of the other projects. This implies, not only the consolidation and the implementation of the technological components in line with the recommendations and guidelines built by EC2 “Processes & Methods”, but also its end-to-end execution for the design of AI modules and their application on selected industrial use cases.

To this end, EC1 will implement an interoperable **Trustworthy environment** prototype. Made available to the entire program, this environment will be used for different purposes:

- Support the continuous development and integration of technological components,
- Assess the added value of components and tools on representative industrial use cases,
- Maturate shared industrial use cases by the means of selected components and tools,
- Allow the revisit of classical engineering in view of the effects induced by the usage of artificial intelligence module within critical systems.



In addition, as the running and orchestration of the Trustworthy environment requires a specific framework to correctly execute the successive steps of the model generation process, EC1 is also responsible for the deployment and provision of an **execution environment** that will ensure the proper execution of every component of the Trustworthy environment.

Finally, EC1 also ensures that Confiance.AI program has the proper tools to collaboratively work at a distance: which implies not only a dedicated information system and tools but also an operational infrastructure running the tools on the one hand and the execution environment on the other. This set belongs to the so-called **program environment**.

1.2.1. Work packages and tasking

Project EC1 is structured around six work packages, each work package is carried out through tasks ranging from two to five.

- WP1: Trustworthy environment engineering tools
 - T1.1. Positioning in relation to industrial environments
 - T1.2. Implementation of the necessary engineering tools
- WP2: Program environment

| | | | | |
|---|----------------------|--------------------|----|---|
|  | IRT | SystemX | |  |
| | Project | Confiance.ai – EC1 | | |
| | DEMONSTRATOR OVER UC | | | |
| | From | 2021-01-01 | TO | 2023-12-31 |
| CONFIDENTIAL | | | | Page 3/14 |

- T2.1. Provision of infrastructure & information system
- T2.2. Provision of the collaboration, project management and development environment
- WP3: Provision of use-cases in the Trustworthy environment
 - T3.1 State of play of industrial use cases in the Trustworthy environment
 - T3.2 Implementation of shared industrial use case interfaces
 - T3.3 Maturation of shared use cases
- WP4: Integration and federation of components
 - T4.1 Implementation of an interoperable Trustworthy environment
 - T4.2 Integration of tools and methods from existing initiatives
 - **T4.3 End2End evaluation on representative use cases**
- WP5: Sustainability and Trustworthy environment support
 - T5.1 Coordination of sustainability strategy for the components of the Trustworthy environment
 - T5.2 Release and documentation of the Trustworthy environment
 - T5.3 Support and training
 - T5.4 Valorisation and choice of business model
 - T5.5 Community building around the Trustworthy environment
- WP6: Development of integrative components
 - T6.1 Identification of trust property aggregation methods
 - T6.2 Construction of trust properties on use cases



1.3. Deliverable description

This deliverable lists the various demonstrators built as part of the program.



A demonstrator enables the implementation of a method on a use case in order to evaluate its performance and therefore its relevance.

1.4. Glossary of terms and acronyms

| Terms | Signification |
|-----------------|---|
| Acronyms | |
| AC | Assurance Case An assurance case provides an argument to justify certain claims about a system, based on evidence concerning both the system and the environment in which it operates. |
| AI | Artificial Intelligence Data processing systems that perform functions normally associated with human intelligence, such as reasoning, learning, and self-improvement. |
| DE | Data Engineering |

| | | | | |
|---|----------------------|--------------------|----|---|
|  | IRT | SystemX | |  |
| | Project | Confiance.ai – EC1 | | |
| | DEMONSTRATOR OVER UC | | | |
| | From | 2021-01-01 | TO | 2023-12-31 |
| CONFIDENTIAL | | | | Page 4/14 |

| | |
|-------------------------|--|
| | Discipline that aims to organize, structure, trace and select data in such a way that its quality, availability, relevance and traceability can be guaranteed throughout the life cycle of the data. |
| DevOps | <p>Development Operations</p> <p>DevOps combines software development practices with IT operations practices in order to simplify and shorten the system development lifecycle.</p> |
| IT | <p>Information Technology</p> <p>A computer system used to create, process, store and exchange data and information.</p> |
| ML | <p>Machine Learning</p> <p>Process by which a functional unit improves its performance by acquiring new knowledge or skills or by reorganizing existing knowledge or skills.</p> |
| MLOps | <p>Machine Learning Operations</p> <p>MLOps combines machine learning development requirements and practices with IT operation practices in order to simplify and shorten the life cycle of machine learning models.</p> |
| NN | <p>Neural Network</p> <p>Computational model utilizing distributed, parallel local processing and consisting of a network of simple processing elements called artificial neurons, which can exhibit complex global behaviour.</p> |
| ODD | <p>Operational Design Domain</p> <p>Operating conditions under which a given driving automation system or feature thereof is specifically designed to function, including, but not limited to, environmental, geographical, and time-of-day restrictions, and/or the requisite presence or absence of certain traffic or roadway characteristic.</p> |
| UI | <p>User Interface</p> <p>Perimeter where interactions, whatever the form, between a user and a machine occurs. It allows the user to control the system as well as to assess its state.</p> |
| Environments | |
| Execution environment | The Execution environment provides the means required for the execution of the technological components that constitute the Trustworthy Environment. It uses the infrastructure and information system provided through the Program Environment. |
| Federative base | See “Trustworthy Environment” |
| Federative environment | Both the execution and the program environment. |
| Program environment | The information system that supports the collaborative working tools as well as the infrastructure, including computing, required for the execution environment. |
| Trustworthy environment | A set of tools and methods accompanied by guidelines that define their use, all of which allow the design, integration and deployment of Trustworthy AI modules for a critical system that fall within the scope of conventional engineering. |

| | | | | |
|---|----------------------|--------------------|----|---|
|  | IRT | SystemX | |  |
| | Project | Confiance.ai – EC1 | | |
| | DEMONSTRATOR OVER UC | | | |
| | From | 2021-01-01 | TO | 2023-12-31 |
| CONFIDENTIAL | | | | Page 5/14 |

2. DEMONSTRATORS

2.1. Definition

A demonstrator is an implementation of a method on a use-case (model and data) in order to evaluate its performances and so, its relevance. Among the different software result released by the confiance.ai program, some are just demonstrators while some others are pairs of python libraries and associated demonstrators.

2.1. List

2.1.0. Component 3122

- Name : MAIAT
- Type : web application
- Tested usecase : Renault_welding_inspection
- storage compatibility : NFS
- Repository : [Comp 3122 · master · Confiance.AI / Demonstrators · GitLab \(irt-systemx.fr\)](#)
- Additional Documentation :
 - [Comp 3122/Documentation/Guide utilisation MAIAT.pdf · master · Confiance.AI / Demonstrators · GitLab \(irt-systemx.fr\)](#)

2.1.1. Component 3131



- Name : MAPIE
- Type : Python external lib
- Tested usecase : Thales_Aerial_PhotoGraph_Interpretation
- storage compatibility : NFS
- Repository : [Comp 3131 · master · Confiance.AI / Demonstrators · GitLab \(irt-systemx.fr\)](#)
- Additional Documentation : https://git.irt-systemx.fr/confianceai/Demonstrators/-/blob/master/Comp_3131/UC_Thales_Aerial_PhotoGraph_Interpretation/doc/EC3FA13_Rapport_Confiance-ai_QM_Thales.pdf

2.1.2. Component 3132

- Name : BinaryCalib
- Type : Python Lib
- Tested usecase : Thales_Aerial_PhotoGraph_Interpretation
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_3/comp_3132_packaged
- Repository : [Comp 3132 · master · Confiance.AI / Demonstrators · GitLab \(irt-systemx.fr\)](#)
- Additional Documentation : https://git.irt-systemx.fr/confianceai/Demonstrators/-/blob/master/Comp_3131/UC_Thales_Aerial_PhotoGraph_Interpretation/doc/EC3FA13_Rapport_Confiance-ai_QM_Thales.pdf

2.1.3. Component 3141

- Name : Chiru
- Type : Web Application
- Tested usecase : Thales_Aerial_PhotoGraph_Interpretation
- storage compatibility : NFS
- Repository : [Comp 3141 · master · Confiance.AI / Demonstrators · GitLab \(irt-systemx.fr\)](#)

| | | | | |
|---|----------------------|--------------------|----|---|
|  | IRT | SystemX | |  |
| | Project | Confiance.ai – EC1 | | |
| | DEMONSTRATOR OVER UC | | | |
| | From | 2021-01-01 | TO | 2023-12-31 |
| CONFIDENTIAL | | | | Page 6/14 |

- Additional Documentation : [Comp 3141/UC Thales Aerial Photograph Interpretation/L1.4 note-version-chiru-v1beta.pdf · master · Confiance.AI / Demonstrators · GitLab \(irt-systemx.fr\)](#)

2.1.4. Component 3150

- Name : Kaa
- Type : Python Lib
- Tested usecase : AirbusAcsXUClassif, ArrbusAcsXURegress, AtosReid, RenaultWelding, SafranVisualIndusCtrl, ThalesLasAerial, Woodscape2dBox
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_3/n4_explicability_benchmark/kaa/-/tree/EC1_integration_kaa
- Repository : [Comp 3150 · master · Confiance.AI / Demonstrators · GitLab \(irt-systemx.fr\)](#)
- Additional Documentation : [Comp 3150/aide/Kaa.pdf · master · Confiance.AI / Demonstrators · GitLab \(irt-systemx.fr\)](#)

2.1.5. Component 3162

- Name : NLPipes
- Type : Python Lib
- Tested usecase : Public UC Google Sentiment
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_3/n16_nlp/nlpipes
- Repository : [Comp 3162 · master · Confiance.AI / Demonstrators · GitLab \(irt-systemx.fr\)](#)

2.1.6. Component 3171



- Name : PyRAT
- Type : Python Lib
- Tested usecase : Renault_welding_inspection, ACASXU
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_3/ec3_n17_pyrat
- Repository : [Comp 3171 · master · Confiance.AI / Demonstrators · GitLab \(irt-systemx.fr\)](#)

2.1.7. Component 322

- Name : Nnenum
- Type : Python Lib
- Tested usecase : ACASXU, public_datasets
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_3/comp_322_packaged
- Repository : [Comp 322 · master · Confiance.AI / Demonstrators · GitLab \(irt-systemx.fr\)](#)

2.1.8. Component 323

- Name : ABCcrown
- Type : Python Lib
- Tested usecase : ACASXU, public_datasets
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_3/comp_323_packaged
- Repository : [Comp 323 · master · Confiance.AI / Demonstrators · GitLab \(irt-systemx.fr\)](#)

| | | | | |
|---|----------------------|--------------------|----|---|
|  | IRT | SystemX | |  |
| | Project | Confiance.ai – EC1 | | |
| | DEMONSTRATOR OVER UC | | | |
| | From | 2021-01-01 | TO | 2023-12-31 |
| CONFIDENTIAL | | | | Page 7/14 |

2.1.9. Component 331

- Name : Adversarial Attack
- Type : Python Lib
- Tested usecase : Renault Welding Inspection
- storage compatibility : MinIO
- Repository : [Comp 331 · master · Confiance.AI / Demonstrators · GitLab \(irt-systemx.fr\)](#)

2.1.10. Component 332

- Name : AIMOS
- Type : Python Lib
- Tested usecase : Renault_Welding_inspection, ACAS_XU, Air_liquide_demand_forecasting, safran_visual_industrial_control
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_3/ec3_n14/-/tree/master/CEA
- Repository : [Comp 332 · master · Confiance.AI / Demonstrators · GitLab \(irt-systemx.fr\)](#)

2.1.11. Component 333

- Name : Amplification Method for Robustness Evaluation
- Type : Python Lib
- Tested usecase : Renault_Welding_inseption , Air_Liquide_EMSSData_Quality
- storage compatibility : MinIO, NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_3/n3_local_carac/-/blob/master/LNE/README.md
- Repository : [Comp 333 · master · Confiance.AI / Demonstrators · GitLab \(irt-systemx.fr\)](#)

2.1.12. Component 334



- Name : Non-Overlapping Corruption Benchmark
- Type : Python Lib
- Tested usecase : Renault_Welding_inseption
- storage compatibility : MinIO
- Component Source Code : [ATOS · atos · Confiance.AI / EC_3 / N3 Local carac · GitLab \(irt-systemx.fr\)](#)
- Repository : [Comp 334 · master · Confiance.AI / Demonstrators · GitLab \(irt-systemx.fr\)](#)

2.1.13. Component 335

- Name : Time-series Robustness Characterizer
- Type : Python Lib
- Tested usecase : Renault_Welding_inseption
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_3/comp_335_packaged
- Repository : [Comp 335 · master · Confiance.AI / Demonstrators · GitLab \(irt-systemx.fr\)*](#)

2.1.14. Component 341

- Name : XPlique
- Type : Python Lib
- Tested usecase : Renault_Welding_inseption
- storage compatibility : NFS
- Component Source Code : <https://github.com/deel-ai/xplique/>

| | | | | |
|---|----------------------|--------------------|----|---|
|  | IRT | SystemX | |  |
| | Project | Confiance.ai – EC1 | | |
| | DEMONSTRATOR OVER UC | | | |
| | From | 2021-01-01 | TO | 2023-12-31 |
| CONFIDENTIAL | | | | |

- Repository : [Comp 341 · master · Confiance.AI / Demonstrators · GitLab \(irt-systemx.fr\)](https://gitlab.com/irt-systemx/Confiance.AI/Demonstrators/Comp_341)

2.1.15. Component 343

- Name : Shap
- Type : Python Lib
- Tested usecase : Renault_Welding_insepection
- storage compatibility : NFS
- Component Source Code : <https://github.com/slundberg/shap>
- Repository : [Comp 343 · master · Confiance.AI / Demonstrators · GitLab \(irt-systemx.fr\)](https://gitlab.com/irt-systemx/Confiance.AI/Demonstrators/Comp_343)

2.1.16. Component 347

- Name : AIX360
- Type : Python Lib
- Tested usecase : ACAS XU
- storage compatibility : NFS
- Component Source Code : <https://github.com/Trusted-AI/AIX360>
- Repository : [Comp 347 · master · Confiance.AI / Demonstrators · GitLab \(irt-systemx.fr\)](https://gitlab.com/irt-systemx/Confiance.AI/Demonstrators/Comp_347)

2.1.17. Component 350_1

- Name : Agnostic Benchmark
- Type : Python Lib
- Tested usecase : Air_Liquide_Demand_Forecasting
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_3/n5_benchmark
- Repository : [Comp 350_1 · master · Confiance.AI / Demonstrators · GitLab \(irt-systemx.fr\)](https://gitlab.com/irt-systemx/Confiance.AI/Demonstrators/Comp_350_1)

2.1.18. Component 350_1



- Name : Agnostic Benchmark
- Type : Python Lib
- Tested usecase : Air_Liquide_Demand_Forecasting
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_3/n5_benchmark
- Repository : [Comp 350_1 · master · Confiance.AI / Demonstrators · GitLab \(irt-systemx.fr\)](https://gitlab.com/irt-systemx/Confiance.AI/Demonstrators/Comp_350_1)

2.1.19. Component 350_2

- Name : PUNCC
- Type : Python Lib
- Tested usecase : Air_Liquide_Demand_Forecasting
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_3/n5_puncc
- Repository : [Comp 350_2 · master · Confiance.AI / Demonstrators · GitLab \(irt-systemx.fr\)](https://gitlab.com/irt-systemx/Confiance.AI/Demonstrators/Comp_350_2)

2.1.20. Component 350_3

- Name : UQModels
- Type : Python Lib
- Tested usecase : Air_Liquide_Demand_Forecasting
- storage compatibility : NFS

| | | | | |
|---|----------------------|--------------------|----|---|
|  | IRT | SystemX | |  |
| | Project | Confiance.ai – EC1 | | |
| | DEMONSTRATOR OVER UC | | | |
| | From | 2021-01-01 | TO | 2023-12-31 |
| CONFIDENTIAL | | | | Page 9/14 |

- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_3/n5_uqmodels
- Repository : [Comp_350_3 · master · Confiance.AI / Demonstrators · GitLab \(irt-systemx.fr\)](https://git.irt-systemx.fr/Comp_350_3_master_Confiance.AI_Demonstrators_GitLab)

2.1.21. Component 361

- Name : Online Monitoring
- Type : Python Lib
- Tested usecase : Renault_Welding_inspection, Air_Liquide_Demand_forecasting, Thales_Aerial_PhotoGraph_interpretation
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_3/n6_monitoring/monitor-rule-based/online-monitor-rule-based
- Repository : [Comp_361 · master · Confiance.AI / Demonstrators · GitLab \(irt-systemx.fr\)](https://git.irt-systemx.fr/Comp_361_master_Confiance.AI_Demonstrators_GitLab)

2.1.22. Component 366

- Name : Offline Calibration Tool for Monitoring
- Type : Python Lib/Docker
- Tested usecase : Renault_Welding_inspection, Air_Liquide_Demand_forecasting, Thales_Aerial_PhotoGraph_interpretation
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_3/n6_monitoring/monitor-rule-based/poc-monitoring
- Repository : https://git.irt-systemx.fr/confianceai/Demonstrators/-/tree/master/Comp_366

2.1.23. Component 3811



- Name : ABConfidence Score - Classification
- Type : Demonstrator
- Tested usecase : Renault_Welding_inspection,
- storage compatibility : NFS
- Repository : https://git.irt-systemx.fr/confianceai/Demonstrators/-/tree/master/Comp_3811

2.1.24. Component 3812

- Name : ABConfidence Score - Detection
- Type : Demonstrator
- Tested usecase : COCO-Dataset
- storage compatibility : NFS
- Repository : https://git.irt-systemx.fr/confianceai/Demonstrators/-/tree/master/Comp_3812

2.1.25. Component 3813

- Name : ABConfidence Score - Reid
- Type : Demonstrator
- Tested usecase : Atos_Visual_similarity
- storage compatibility : NFS
- Repository : https://git.irt-systemx.fr/confianceai/Demonstrators/-/tree/master/Comp_3813

| | | | | | |
|---|----------------------|--------------------|----|------------|---|
|  | IRT | SystemX | | |  |
| | Project | Confiance.ai – EC1 | | | |
| | DEMONSTRATOR OVER UC | | | | |
| | From | 2021-01-01 | TO | 2023-12-31 | Page 10/14 |
| CONFIDENTIAL | | | | | |

2.1.26. Component 3821

- Name : Confidence Score - TCP
- Type : Python Lib
- Tested usecase : Renault Welding Inspection
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_3/ec3_n8/tcp-particul/-/tree/tcp_particul_packaged
- Repository : https://git.irt-systemx.fr/confianceai/Demonstrators/-/tree/master/Comp_3821

2.1.27. Component 3822

- Name : Confidence Score - PARTICUL
- Type : Python Lib
- Tested usecase : Renault Welding Inspection
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_3/ec3_n8/tcp-particul/-/tree/tcp_particul_packaged
- Repository : https://git.irt-systemx.fr/confianceai/Demonstrators/-/tree/master/Comp_3822

2.1.28. Component 391



- Name : MIP Slver
- Type : Demonstrator
- Tested usecase : CIFAR, Mnist
- storage compatibility : NFS
- Repository : https://git.irt-systemx.fr/confianceai/Demonstrators/-/tree/master/Comp_391

2.1.29. Component 4111

- Name : DEEL-LIP
- Type : Python Lib
- Tested usecase : Valeo, IIIT_Oxford-Pet
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_4/as21_lipschitz
- Repository : https://git.irt-systemx.fr/confianceai/Demonstrators/-/tree/master/Comp_4111/as21_Lipschitz

2.1.30. Component 4192

- Name : ML Watermarking
- Type : Python Lib
- Tested usecase : Renault Welding Inspection
- storage compatibility : NFS

| | | | | |
|---|----------------------|--------------------|----|---|
|  | IRT | SystemX | |  |
| | Project | Confiance.ai – EC1 | | |
| | DEMONSTRATOR OVER UC | | | |
| | From | 2021-01-01 | TO | 2023-12-31 |
| CONFIDENTIAL | | | | Page 11/14 |

- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_4/as19_watermarking/-/tree/ec1_integration_l3?ref_type=heads
- Integration pipeline : https://git.irt-systemx.fr/confianceai/ec_4/as19_watermarking/-/pipelines/19195
- Repository : https://git.irt-systemx.fr/confianceai/Demonstrators/-/tree/master/Comp_4192/v0.1.0

2.1.31. Component 4205

- Name : Neural DE
- Type : Demonstrator
- Tested usecase : Renault Welding Inspection
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_4/as19_watermarking/-/tree/ec1_integration_l3?ref_type=heads
- Integration pipeline : https://git.irt-systemx.fr/confianceai/ec_4/as19_watermarking/-/pipelines/19195
- Repository : https://git.irt-systemx.fr/confianceai/Demonstrators/-/tree/master/Comp_4192/v0.1.0

2.1.32. Component 4206



- Name : Influencaie
- Type : Python Lib
- Tested usecase : Air_Liquide_EMS_Data_Quality
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_4/as20_if_rnn/-/tree/master
- Repository : https://git.irt-systemx.fr/confianceai/Demonstrators/-/tree/master/Comp_4206

2.1.33. Component 451

- Name : Adversarial Training
- Type : Python Lib
- Tested usecase : Renault Welding Inspection
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_4/as05_uc_renault
- Repository : https://git.irt-systemx.fr/confianceai/Demonstrators/-/tree/master/Comp_451

2.1.34. Component 462

- Name : Randomized Smoothing for Classification
- Type : Python Lib
- Tested usecase : Renault Welding Inspection
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_4/as06_uc_renault
- Repository : https://git.irt-systemx.fr/confianceai/Demonstrators/-/tree/master/Comp_462

| | | | | | |
|---|----------------------|--------------------|----|------------|---|
|  | IRT | SystemX | | |  |
| | Project | Confiance.ai – EC1 | | | |
| | DEMONSTRATOR OVER UC | | | | |
| | From | 2021-01-01 | TO | 2023-12-31 | Page 12/14 |
| CONFIDENTIAL | | | | | |

2.1.35. Component 462

- Name : Randomized Smoothing for Classification
- Type : Python Lib
- Tested usecase : Renault Welding Inspection
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_4/as06_uc_renault
- Repository : https://git.irt-systemx.fr/confianceai/Demonstrators/-/tree/master/Comp_462

2.1.36. Component 491

- Name : CAUTIONER
- Type : Python Lib
- Tested usecase : Air_Liquide_Demand_forecasting
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_4/cautioner
- Repository : https://git.irt-systemx.fr/confianceai/Demonstrators/-/tree/master/Comp_491

2.1.37. Component 5101



- Name : Smart Data Selection with Active Learning by Leveraging Unlabeled Data
- Type : Python Lib
- Tested usecase : bdd100k, VDP (valeo)
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_5/yolov5_al/-/tree/yolov5_al_packaged
- Repository : https://git.irt-systemx.fr/confianceai/Demonstrators/-/tree/master/Comp_5101

2.1.38. Component 5102

- Name : Domain Adaptation for Object Detection
- Type : Python Lib
- Tested usecase : Thales_Aerial_PhotoGraph_Interpretation
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_5/ec5_as10/domain-adaptation/da-object-detection/-/tree/develop
- Repository : https://git.irt-systemx.fr/confianceai/Demonstrators/-/tree/master/Comp_5102

2.1.39. Component 5103

- Name : Continual Unsupervised Domain Adaptation for Semantic Segmentation
- Type : Python Lib
- Tested usecase : public_GTA5_Cityscapes
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_5/ec5_as10/domain-adaptation/continual-da/-/tree/Comp_5103_packaged
- Repository : https://git.irt-systemx.fr/confianceai/Demonstrators/-/tree/master/Comp_5103

| | | | | | |
|---|----------------------|--------------------|----|------------|---|
|  | IRT | SystemX | | |  |
| | Project | Confiance.ai – EC1 | | | |
| | DEMONSTRATOR OVER UC | | | | |
| | From | 2021-01-01 | TO | 2023-12-31 | Page 13/14 |
| CONFIDENTIAL | | | | | |

2.1.40. Component 5104

- Name : Domain Adaptation Libs
- Type : Python Lib
- Tested usecase : MNIST, UC_Thales_Arial_Interpretation
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_5/ec5_as10/domain-adaptation/dals
- Repository : https://git.irt-systemx.fr/confianceai/Demonstrators/-/tree/master/Comp_5104

2.1.41. Component 5105

- Name : Unsupervised Domain Adaptation for Semantic Segmentation
- Type : Python Lib
- Tested usecase : unrealperson (external data)
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_5/ec5_as10/domain-adaptation/da-openunreid/-/tree/Comp_5105_packaged
- Repository : https://git.irt-systemx.fr/confianceai/Demonstrators/-/tree/master/Comp_5105

2.1.42. Component 511_7



- Name : Topological description of multiple time-series
- Type : Python Lib
- Tested usecase : Air_Liquide_EMS_data_Quality
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_5/ec5_as3/topological-data-analysis
- Repository : https://git.irt-systemx.fr/confianceai/Demonstrators/-/tree/master/Comp_511_7
-

2.1.43. Component 5242

- Name : Class Incremental Learning for 2D Detection
- Type : Python Lib
- Tested usecase : bdd100k
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_5/ec5_as10/incremental-learning/yolov5-il-pseudo-labeling
- Repository : https://git.irt-systemx.fr/confianceai/Demonstrators/-/tree/master/Comp_5242

2.1.44. Component 525

- Name : TADkit
- Type : Python Lib
- Tested usecase : Air_Liquide_EMS_data_quality, Synthetic data
- storage compatibility : NFS
- Integration pipeline : https://git.irt-systemx.fr/confianceai/ec_5/ec5_as3/tadkit/-/pipelines/18912
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_5/ec5_as3/tadkit/-/tree/Integration_cnn1D
- Repository : https://git.irt-systemx.fr/confianceai/Demonstrators/-/tree/master/Comp_525

| | | | | |
|---|----------------------|--------------------|----|---|
|  | IRT | SystemX | |  |
| | Project | Confiance.ai – EC1 | | |
| | DEMONSTRATOR OVER UC | | | |
| | From | 2021-01-01 | TO | 2023-12-31 |
| CONFIDENTIAL | | | | |

2.1.45. Component 7111

- Name : IREE
- Type : Python Lib
- Tested usecase : Renault_Welding_Inspection, Valeo_Scene_understanding
- storage compatibility : NFS
- Component Source Code : https://git.irt-systemx.fr/confianceai/ec_7/as7.11/Iree
- Repository : https://git.irt-systemx.fr/confianceai/Demonstrators/-/tree/master/Comp_711

2.1.46. Component 742

- Name : Benchmarking Environment
- Type : Demonstrator
- Tested usecase : Standard Densenet model architecture in ONNX format
- storage compatibility : NFS
- Repository : https://git.irt-systemx.fr/confianceai/Demonstrators/-/tree/master/Comp_742