

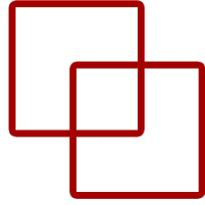
Presentation



Dr. Manuel Castillo-Cara
www.manuelcastillo.eu

Departamento de Inteligencia Artificial
Escuela Técnica Superior de Ingeniería Informática
Universidad Nacional de Educación a Distancia (UNED)

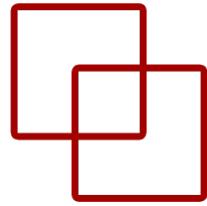
Preliminar



- Improving Deep Learning by Exploiting Synthetic Images © 2024 by Manuel Castillo-Cara is licensed under Attribution-NonCommercial 4.0 International



Índice

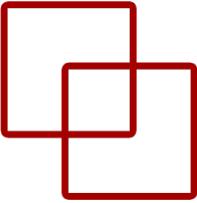


- Curriculum Vitae
- Lineas de investigación
- Indoor Localization
- Synthetic images
- Hybrid Neural Networks
- Ontology Engeneering Group (OEG)
- Módulos del seminario
- Recursos del seminario

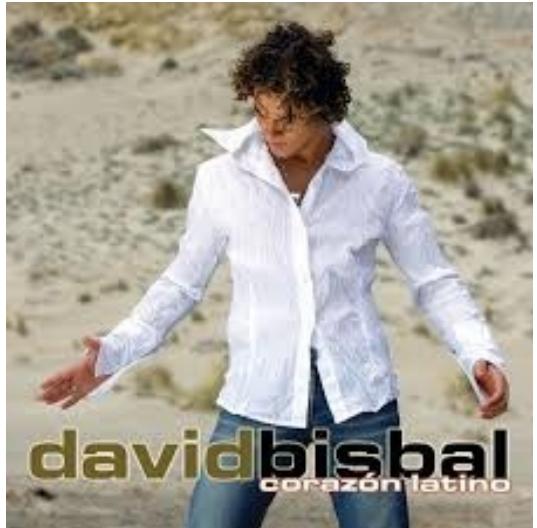


Curriculum Vitae

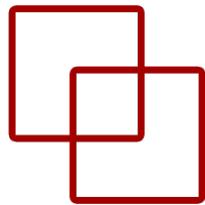
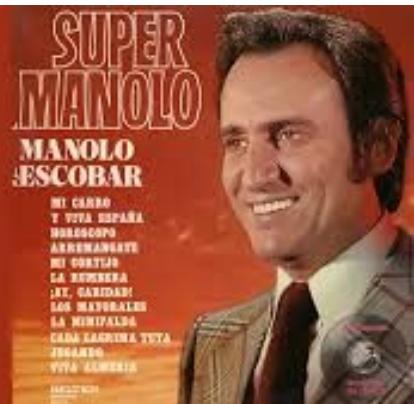
Almería



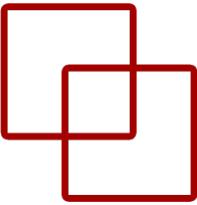
Almería



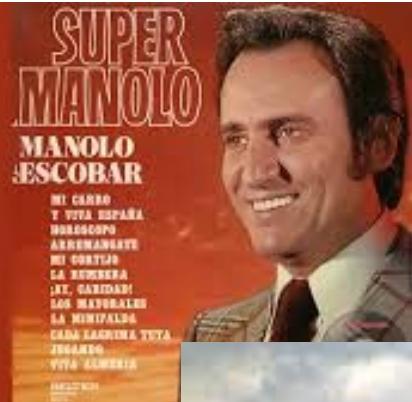
- 01. Pájaro Ciego
- 02. Madrecita M^a Del Carmen
- 03. Que Viva España
- 04. Tu Nombre Anita
- 05. Mi Canción Es Para Ti
- 06. Mi Pequeña Flor
- 07. Que Bonita Es Mi Niña
- 08. Niña De Los Ojos Verdes
- 09. Mi Carru
- 10. Mientras Tú Me Vivirás
- 11. Ni Se Compra Ni Se Vende
- 12. Escribiente
- 13. Los Mayarales
- 14. Ay, Mi Sombra
- 15. Solo Te Pido
- 16. El Positivo No Se Equivoca
- 17. La Morena De Mi Caja
- 18. En Tierra Exótica
- 19. Valencia
- 20. Mi Canción Es Para Ti



Almería

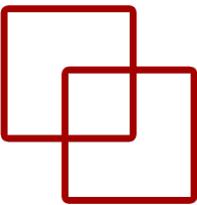


- 01. Pájaro Ciego
- 02. Madrecita M^a Del Carmen
- 03. Que Viva España
- 04. Tu Nombre Anita
- 05. Mi Canción Es Para Ti
- 06. Mi Pequeña Flor
- 07. Que Bonita Es Mi Niña
- 08. Niña De Los Ojos Verdes
- 09. Mi Carru
- 10. Mientras Tú Me Vivirás
- 11. Ni Se Compra Ni Se Vende
- 12. Escribiente
- 13. Los Mayarales
- 14. Ay, Mi Sombra
- 15. Solo Te Pido
- 16. El Positivo No Se Equivoca
- 17. La Morena De Mi Copia
- 18. En Tierra Exótica
- 19. Valencia
- 20. Mi Canción Es Para Ti



Imágenes tomadas de diferentes sitios de internet para una finalidad interna y no pública

Almería



01. Pájaro Ciego
02. Madrecita M^a Del Carmen
03. Que Viva España
04. Tu Nombre Aníta
05. Mi Canción Es Para Ti
06. Mi Pequeña Flor
07. Que Bonita Es Mi Niña
08. Niña De Los Ojos Verdes
09. Mi Carruaje
10. Mientras Tú Me Vivirás
11. Ni Se Compra Ni Se Vende
12. Escribiente
13. Los Mayarales
14. Ay, Mi Sombra
15. Solo Te Pido
16. El Positivo No Se Equivoca
17. La Morena De Mi Copia
18. En Tierra Exótica
19. Valencia
20. Mi Canción Es Para Ti



Nicolás Salmerón fotografiado por Compañy,
publicado en la revista *Nuevo Mundo*
el 24 de septiembre de 1908.



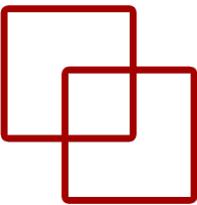
Presidente del Poder Ejecutivo de la
República Española

18 de julio de 1873-7 de septiembre de 1873

Predecesor Francisco Pi y Margall

Sucesor Emilio Castelar

Almería



Emilio Castelar Salmerón fotografiado por Compañy, publicado en la revista *Nuevo Mundo* el 24 de septiembre de 1908.



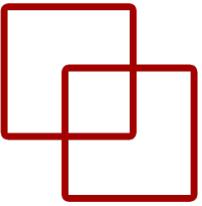
diente del Poder Ejecutivo de la
República Española

io de 1873-7 de septiembre de 1873

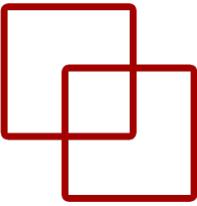
or Francisco Pi y Margall

Emilio Castelar

Doctorado - UCLM Albacete

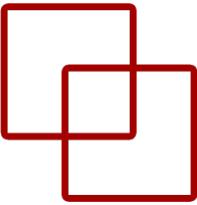


Doctorado - UCLM Albacete



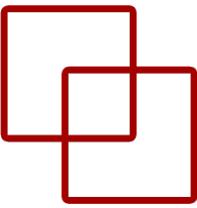
Imágenes tomadas de diferentes sitios de internet para una finalidad interna y no pública

Doctorado - UCLM Albacete



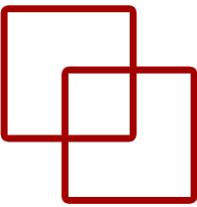
Imágenes tomadas de diferentes sitios de internet para una finalidad interna y no pública

UNI

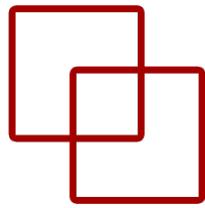


Imágenes tomadas de diferentes sitios de internet para una finalidad interna y no pública

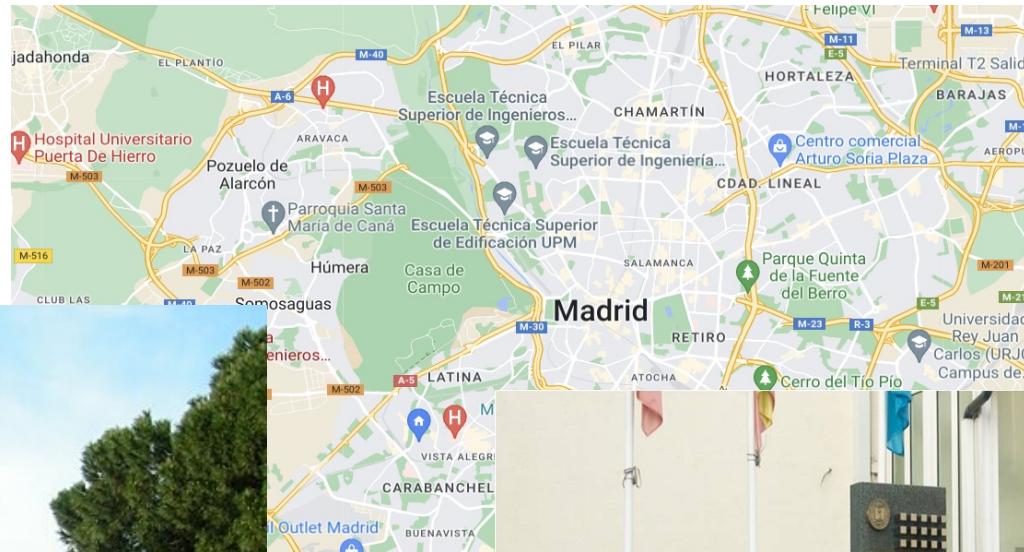
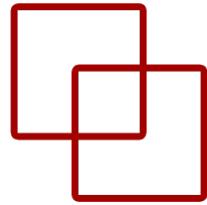
IUT-SCi



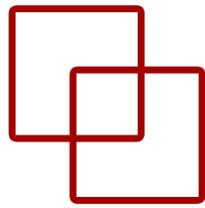
Imágenes tomadas de diferentes sitios de internet para una finalidad interna y no pública



OEG - UPM



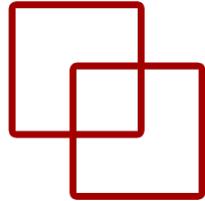
UNED





Estudiar en la UNED

UNED como universidad en Perú



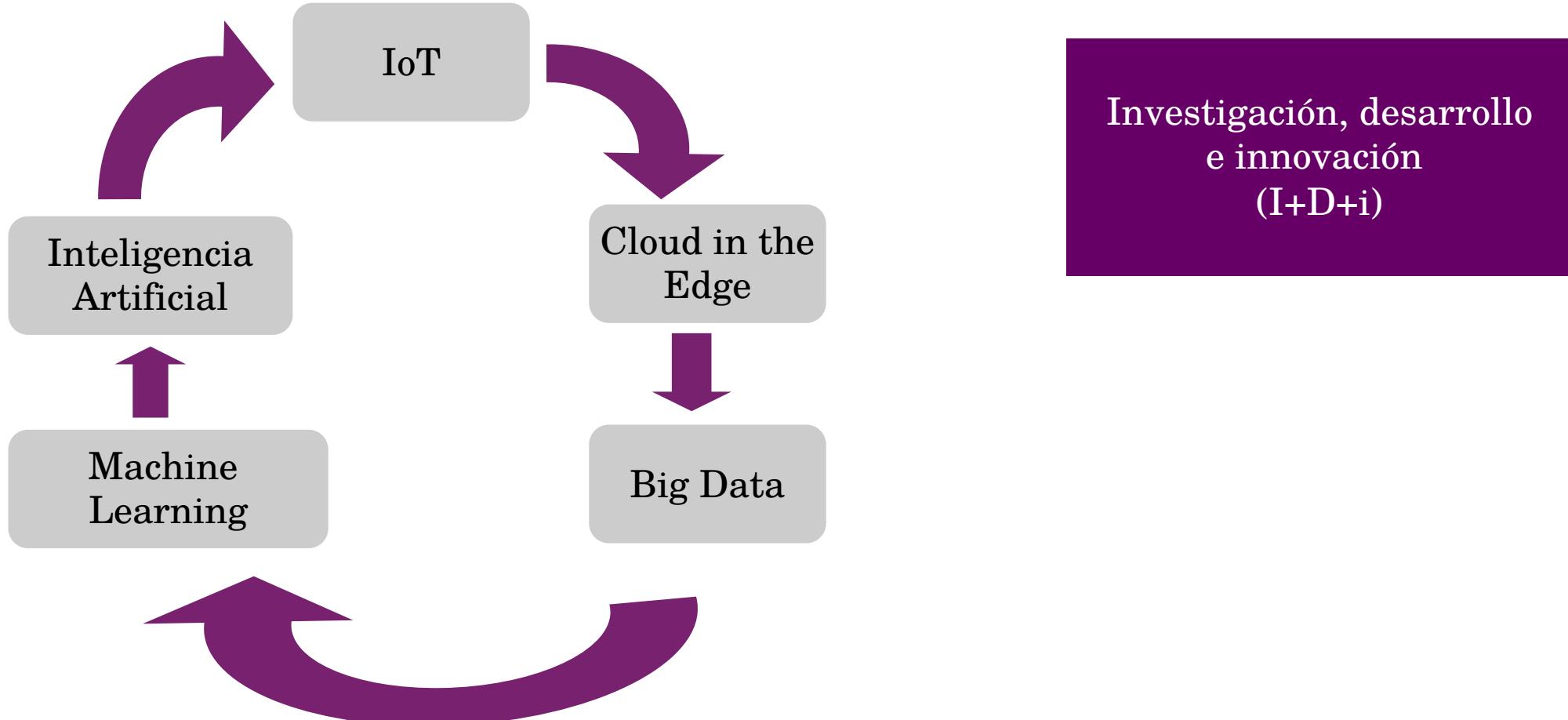
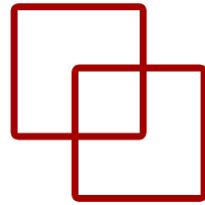
- Universidad pública con representación a nivel mundial.
 - Tasas muy bajas con una exigencia alta.
 - Títulos europeos oficiales
- En Lima, el centro UNED es el centro español en Salaverry.
- Posibilidad de estudiar pregrado y posgrado:
 - Máster de Inteligencia Artificial
 - Otros máster de informática





Líneas de investigación

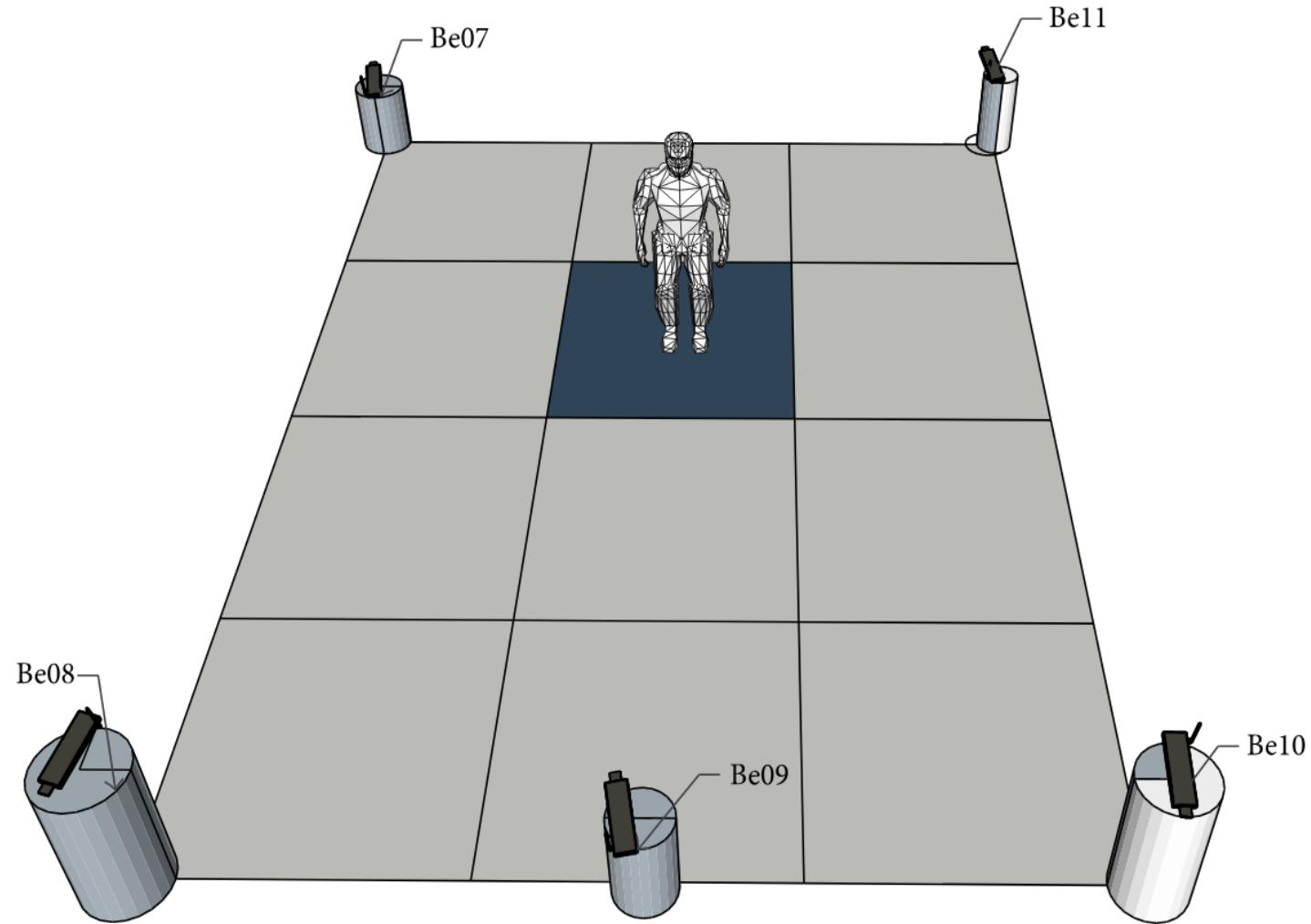
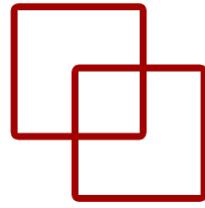
ICBM-AI





Indoor Localization

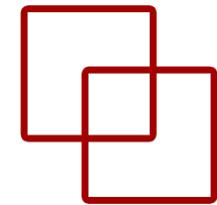
Indoor Localization



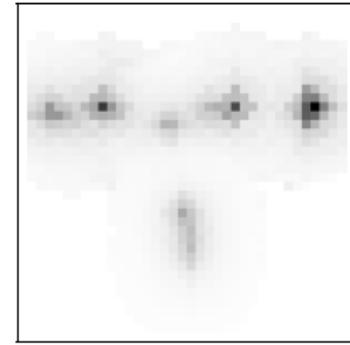
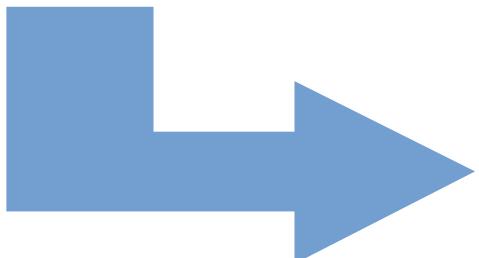


Synthetic images

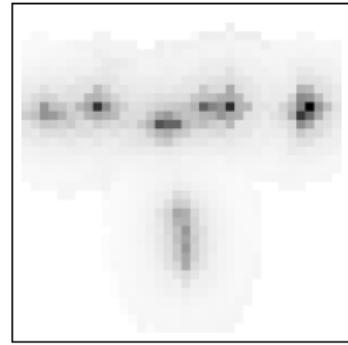
Synthetic images



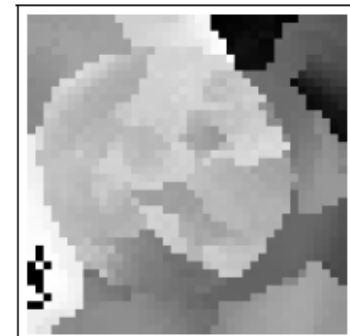
Be07	Be08	Be09	Be10	Be11	Sector
-65	-61	-74	-73	-67	1
-60	-57	-83	-62	-69	2
-66	-70	-78	-63	-73	3
...
-58	-66	-71	-73	-69	14
-60	-62	-73	-69	-57	15



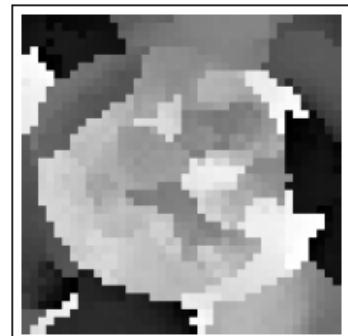
(a) TINTO - Sample 1.



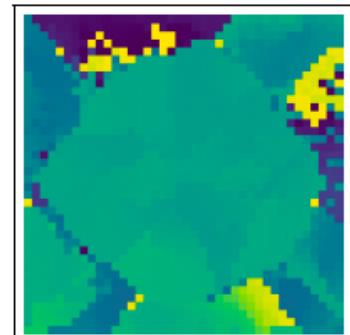
(b) TINTO - Sample 50,000.



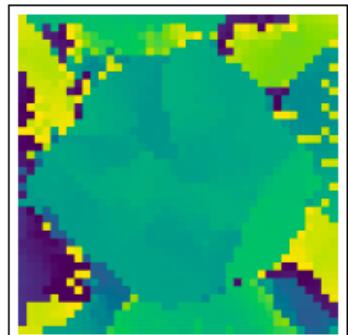
(c) IGTD - Sample 1.



(d) IGTD - Sample 50,000.



(e) REFINED - Sample 1.

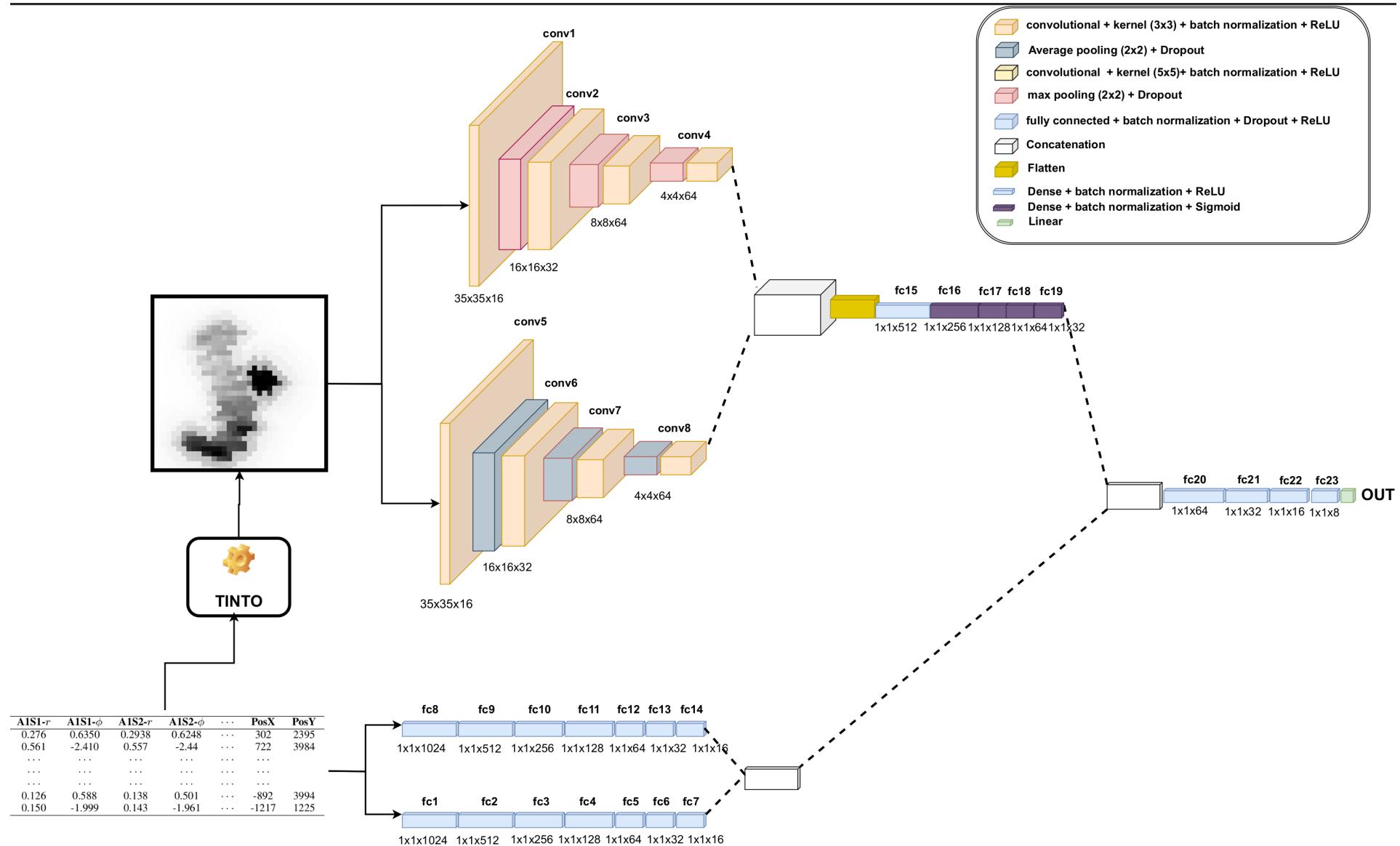
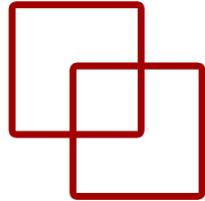


(f) REFINED - Sample 50,000.

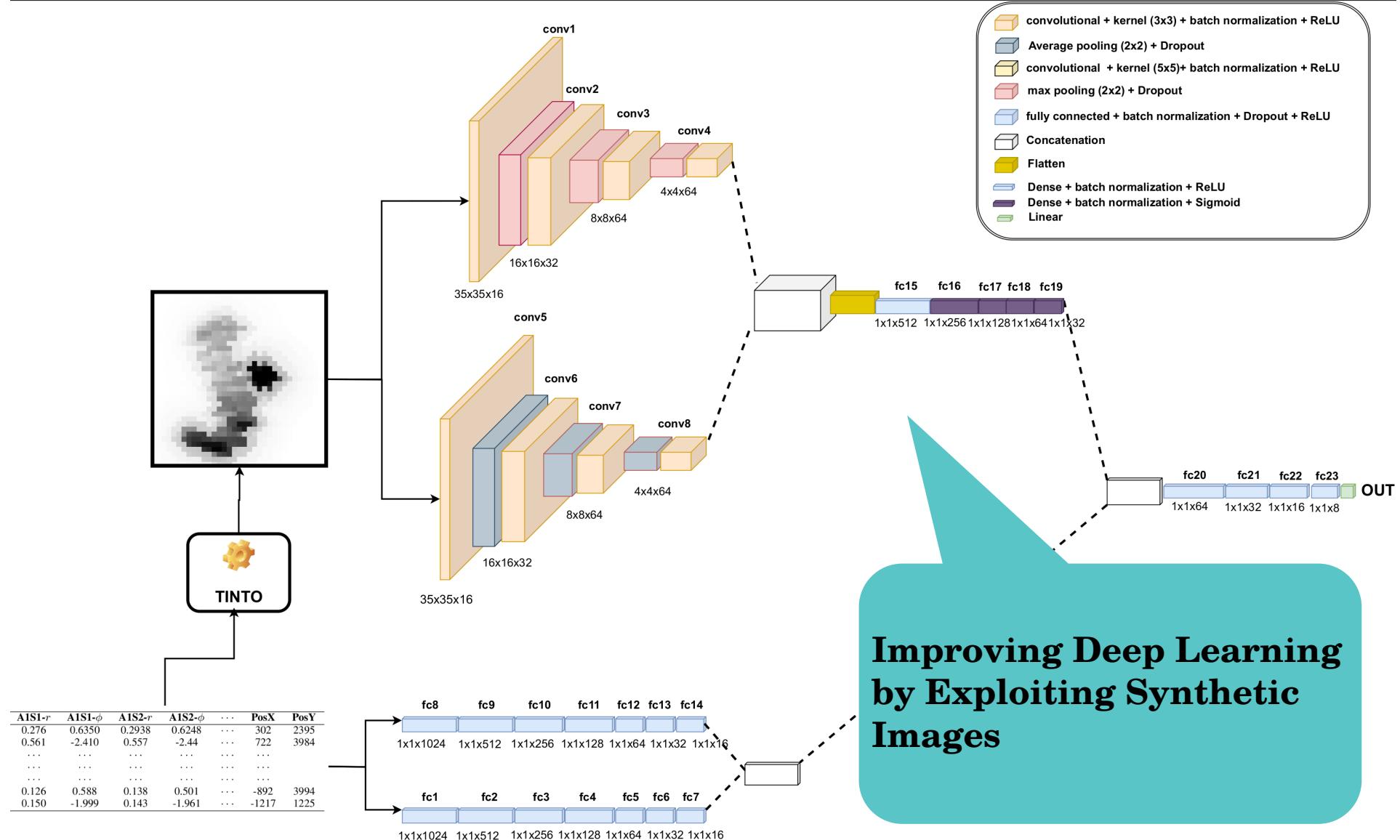
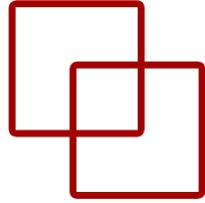


Hybrid Neural Network

Hybrid Neural Network



Hybrid Neural Network





**Ontology Engineering
Group (OEG)**

- **Enabling machines to understand information**
 - Ontology development in collaborative environments
- **Enhancing the use of data by humans/machines**
 - Knowledge graphs from IoT, APIs, files, blockchain...
 - Generation, linking, validation, publication, and access
- **Achieving semantic interoperability in decentralised environments**
 - P2P discovery and access
- **Ensuring control and privacy of data at runtime**
 - Specification and enforcement of privacy policies
- **Learning from multimodal information on the Web**
 - Neural networks, explainability, federated learning, ...
- **Applied to:**
 - Internet of Things, digital twins, data spaces, ...



Raúl García-Castro
rgarcia@fi.upm.es

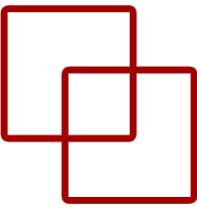


Ontology Engineering Group, ETSI Informáticos
Centro de I+D en Inteligencia Artificial (AI.nnovation Space)
Universidad Politécnica de Madrid

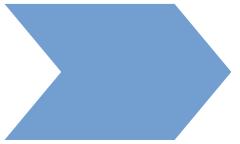


Módulos del seminario

Módulos



MÓDULO 1:
**Convolutional Neural
Networks**

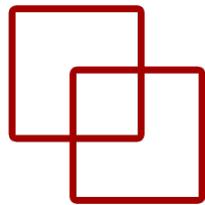


Módulos

MÓDULO 1:
Convolutional Neural
Networks

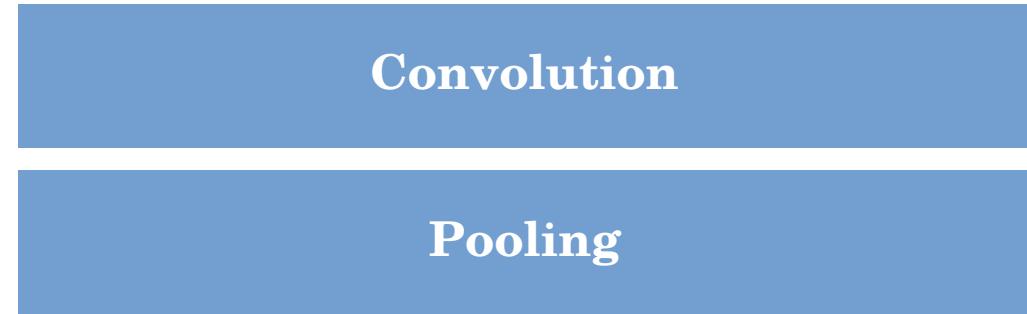


Convolution

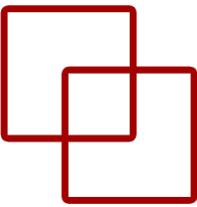


Módulos

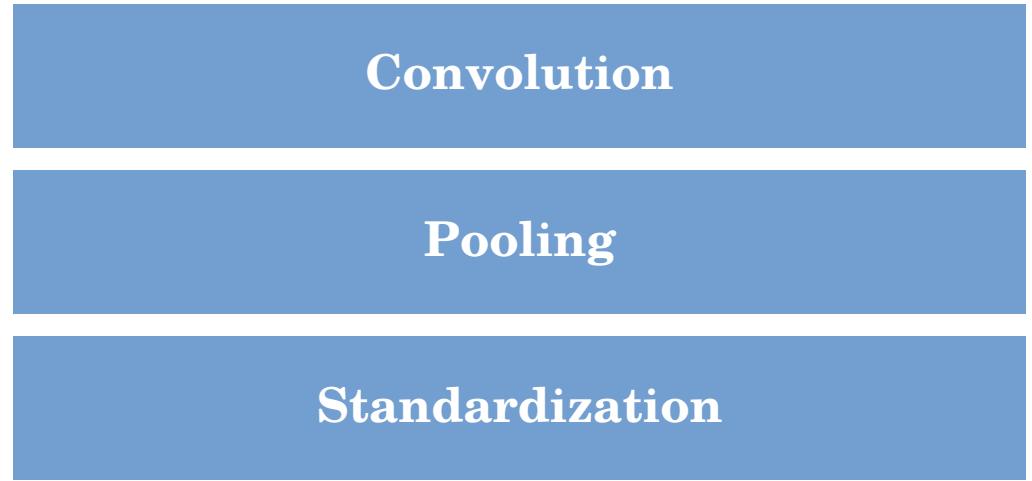
MÓDULO 1:
**Convolutional Neural
Networks**



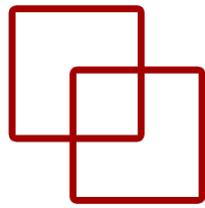
Módulos



MÓDULO 1:
**Convolutional Neural
Networks**



Módulos

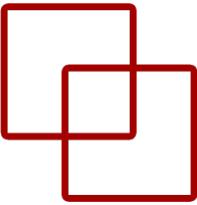


MÓDULO 2:
Transformers



MÓDULO 1:
CNN

Módulos



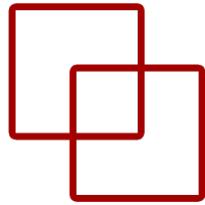
MÓDULO 2:
Transformers



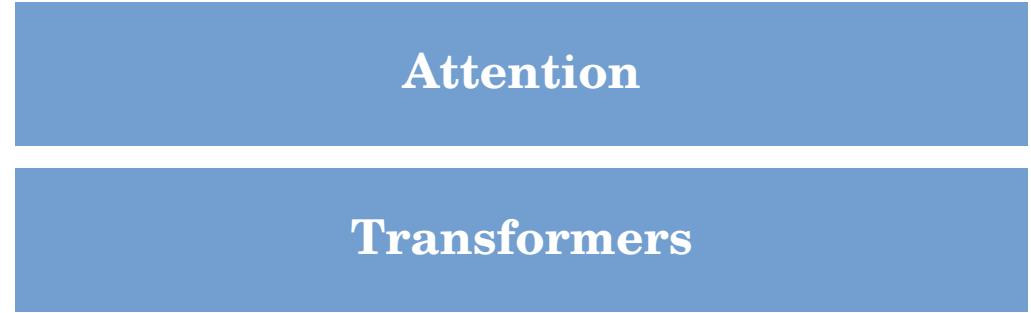
MÓDULO 1:
CNN

Attention

Módulos

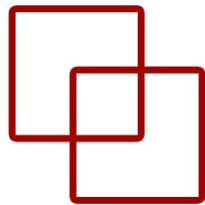


MÓDULO 2:
Transformers

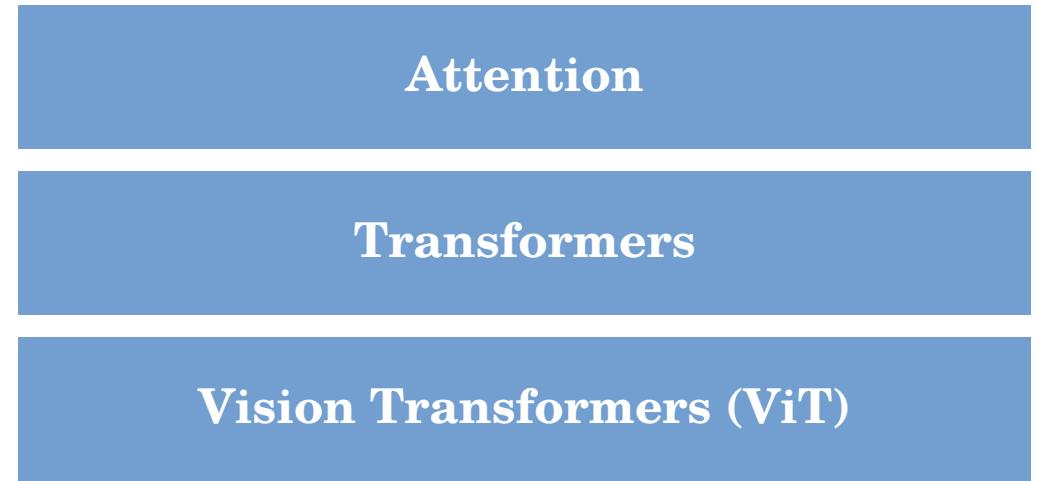


MÓDULO 1:
CNN

Módulos

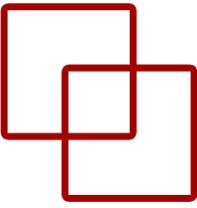


MÓDULO 2:
Transformers



MÓDULO 1:
CNN

Módulos



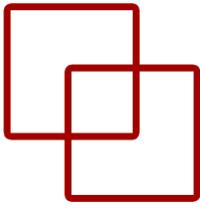
MÓDULO 3:
Synthetic images



MÓDULO 1:
CNN

MÓDULO 2:
Transformers

Módulos



MÓDULO 3:
Synthetic images

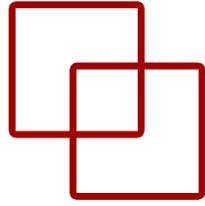


Methods

MÓDULO 1:
CNN

MÓDULO 2:
Transformers

Módulos



MÓDULO 3:
Synthetic images



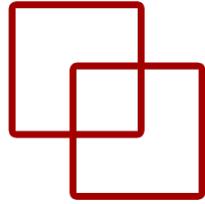
Methods

TINTOlib

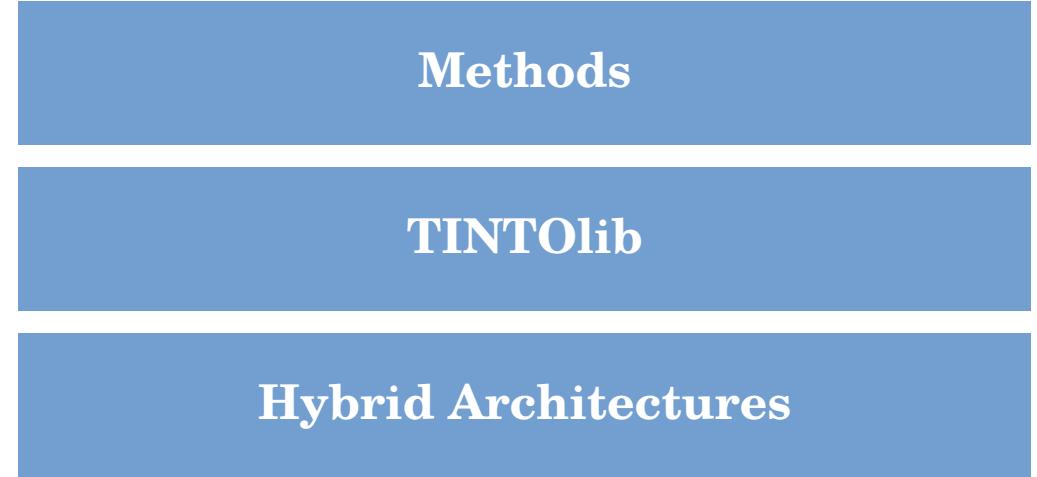
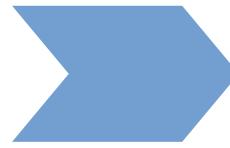
MÓDULO 1:
CNN

MÓDULO 2:
Transformers

Módulos



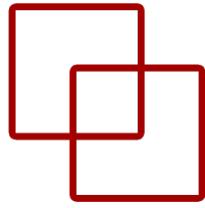
MÓDULO 3:
Synthetic images



MÓDULO 1:
CNN

MÓDULO 2:
Transformers

Módulos



Challenge

MÓDULO 1:
CNN

MÓDULO 2:
Transformers

MÓDULO 3:
Synthetic Images



Recursos del seminario



Descargar documentos

- Link de descarga:
 - <https://bit.ly/3K886Dd>



¡Gracias!



Dr. Manuel Castillo-Cara

www.manuelcastillo.eu

**Departamento de Inteligencia Artificial
Escuela Técnica Superior de Ingeniería Informática
Universidad Nacional de Educación a Distancia (UNED)**