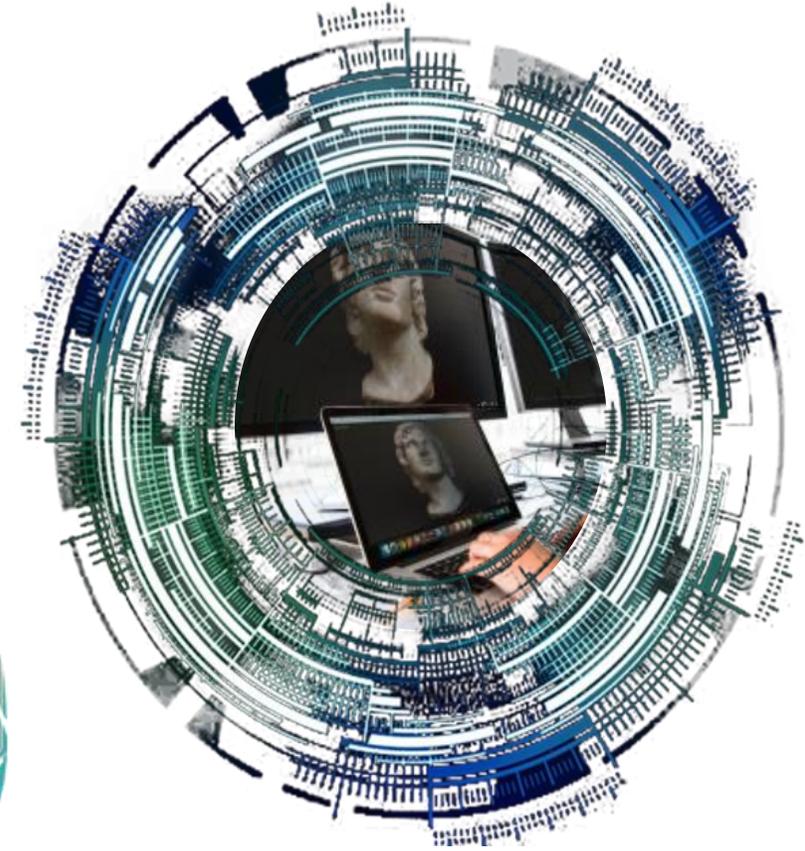
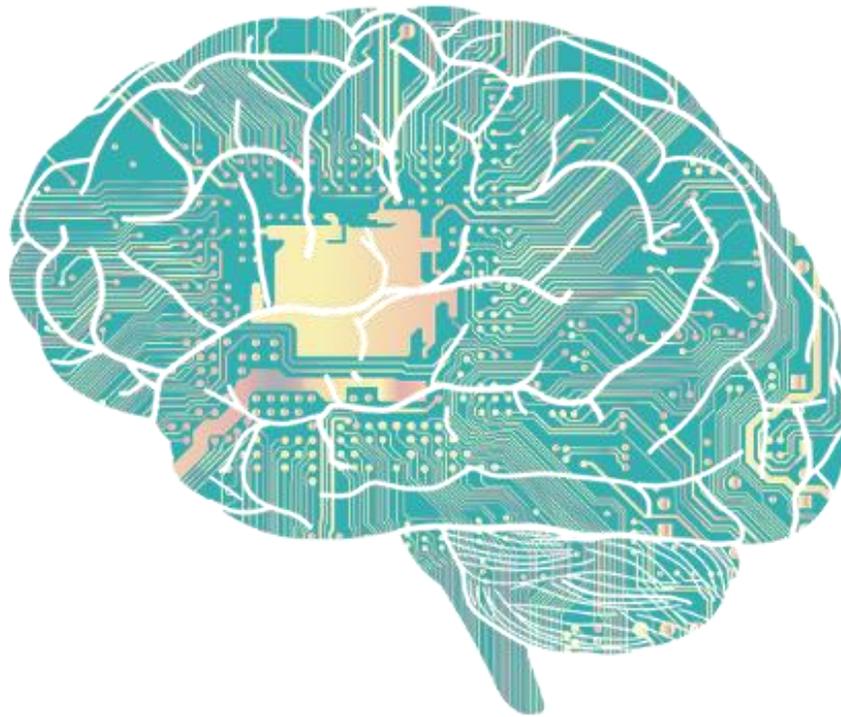
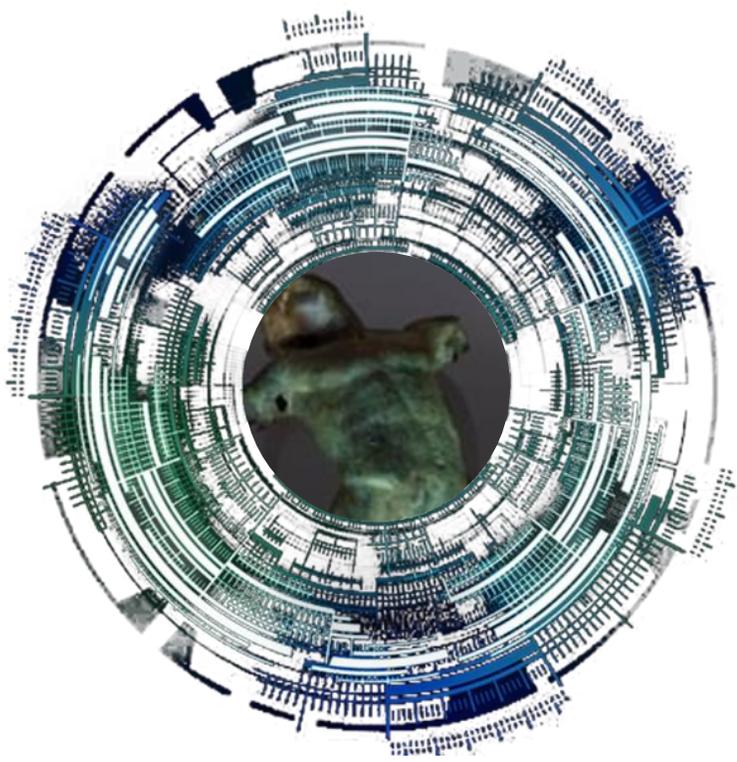


Neuvième réunion plénière du Comité directeur de la culture,
du patrimoine et du paysage (CDCPP)

Applications de l'intelligence artificielle (IA) au patrimoine culturel

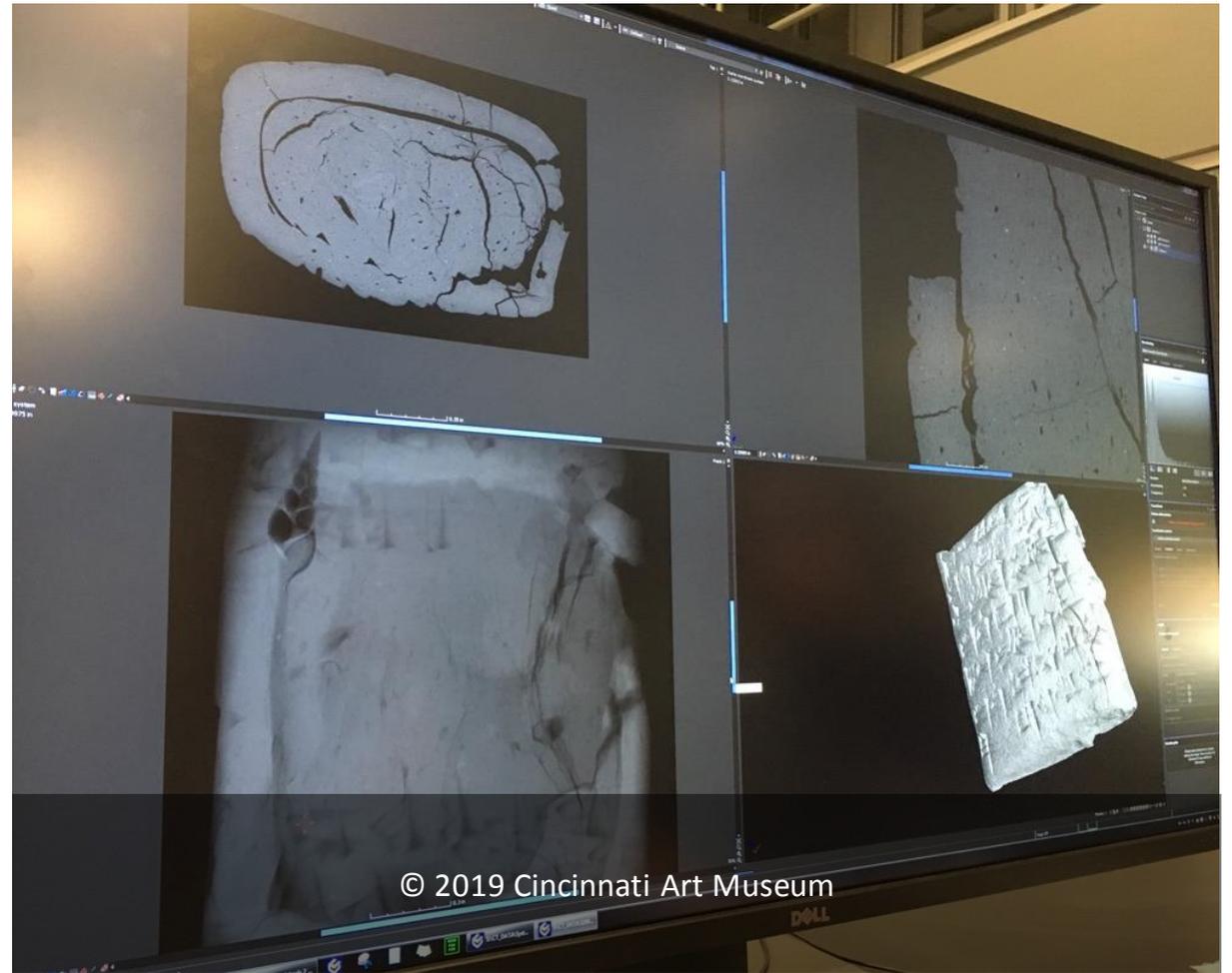
Arianna Traviglia
Istituto Italiano di Tecnologia

Se propulser dans
l'avenir du Passé





CDLI Cuneiform Digital Library Initiative

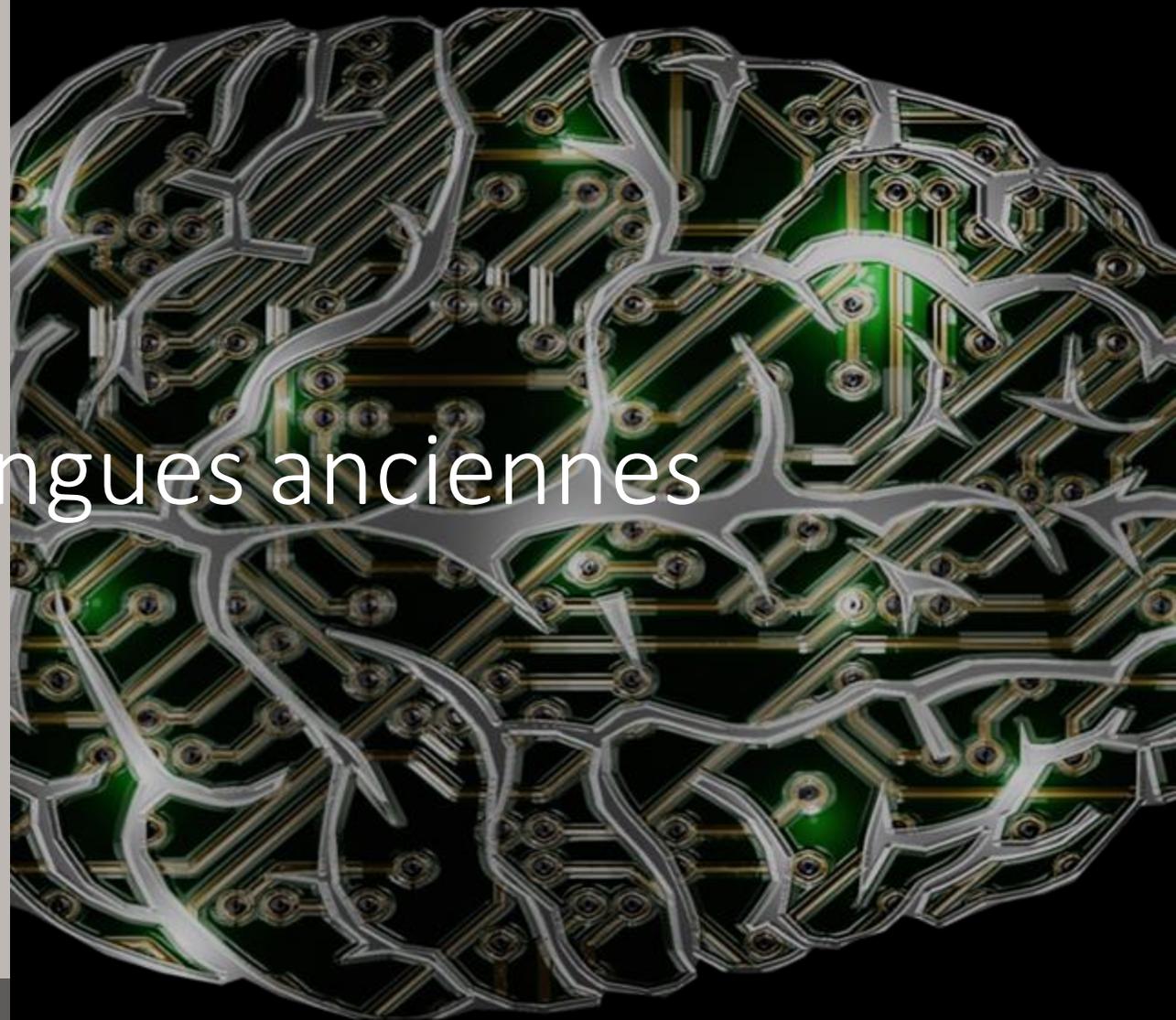


© 2019 Cincinnati Art Museum

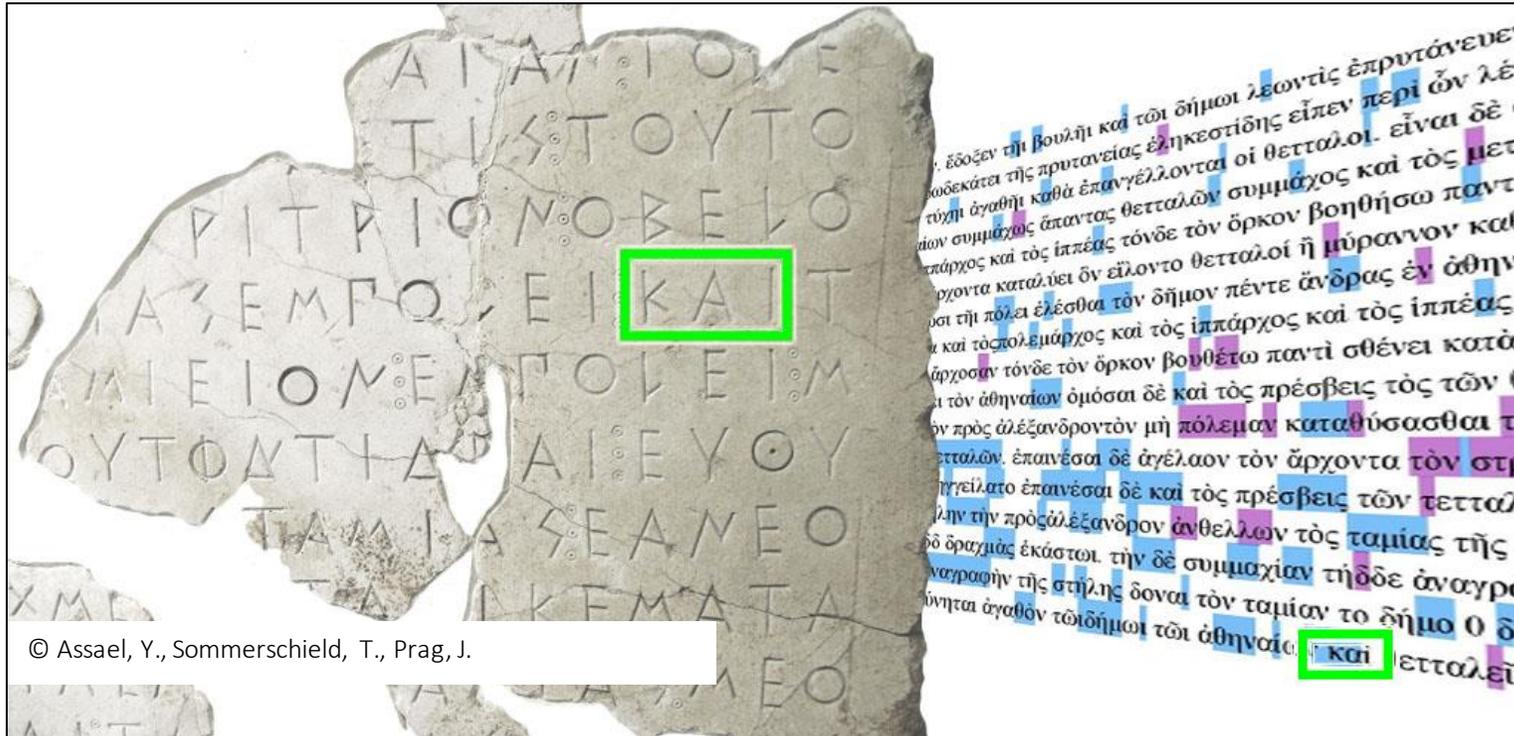
Déchiffrer les langues anciennes



Déchiffrer les langues anciennes



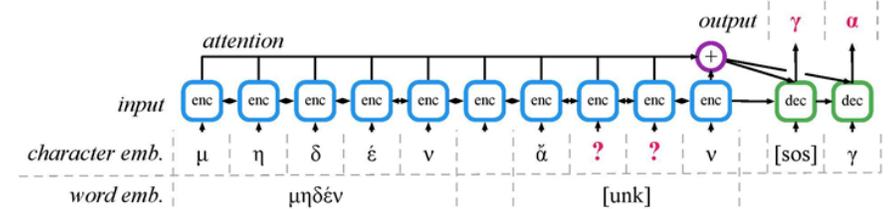
Restaurer les textes anciens en faisant appel à l'apprentissage en profondeur



© Assael, Y., Sommerschild, T., Prag, J.

Sample restoration of the inscription IG II 2 116. Restorations are in blue when correct, purple when incorrect.

Model architecture:



Restoration performance:

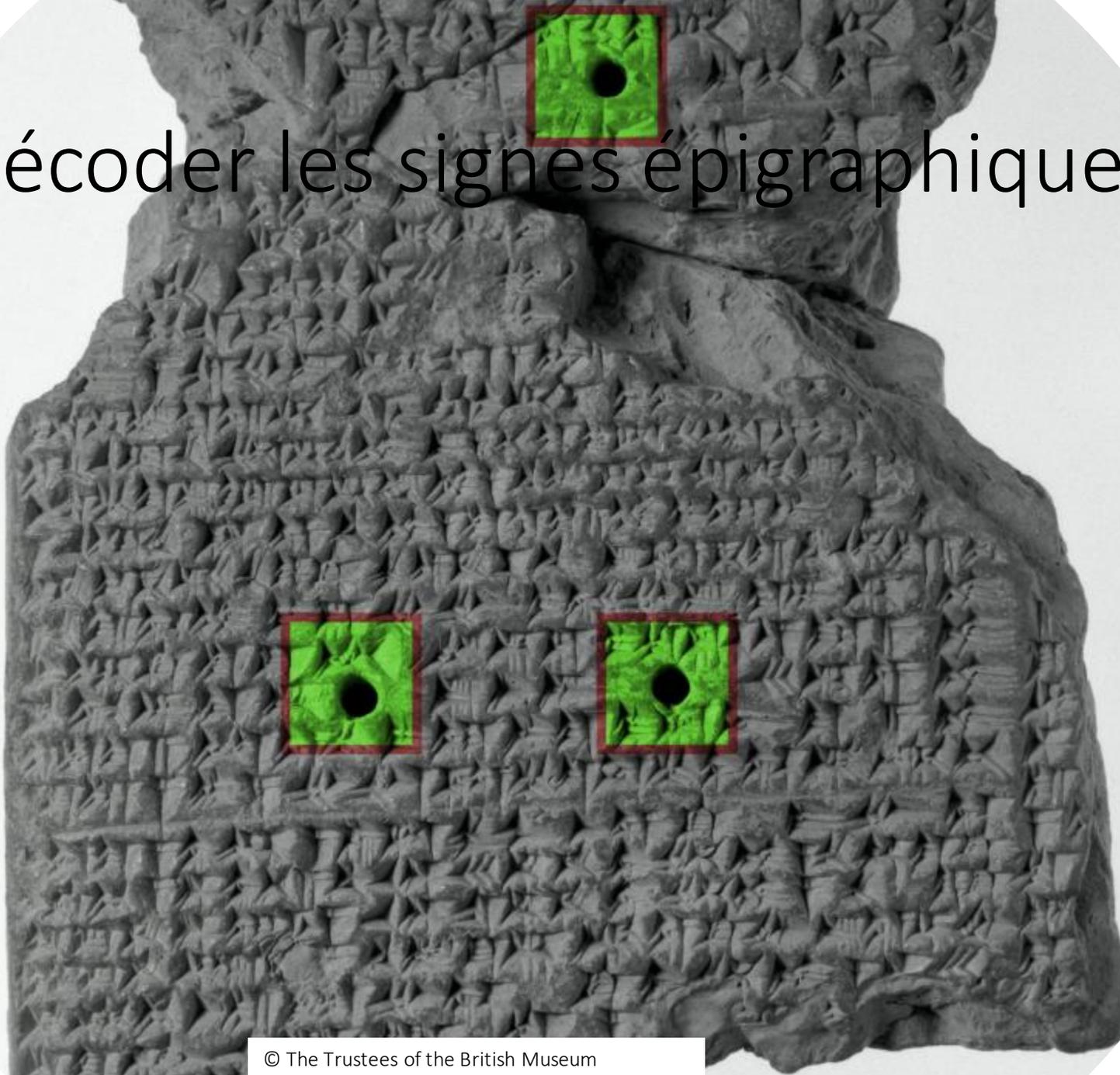
Method	CER	Top-20
Ancient Historian	57.3%	—
PYTHIA-BI-WORD	30.1%	73.5%

Lower is better

70% restoration accuracy

Top-20 predictions were correct 73% of the times

Décoder les signes épigraphiques



© The Trustees of the British Museum

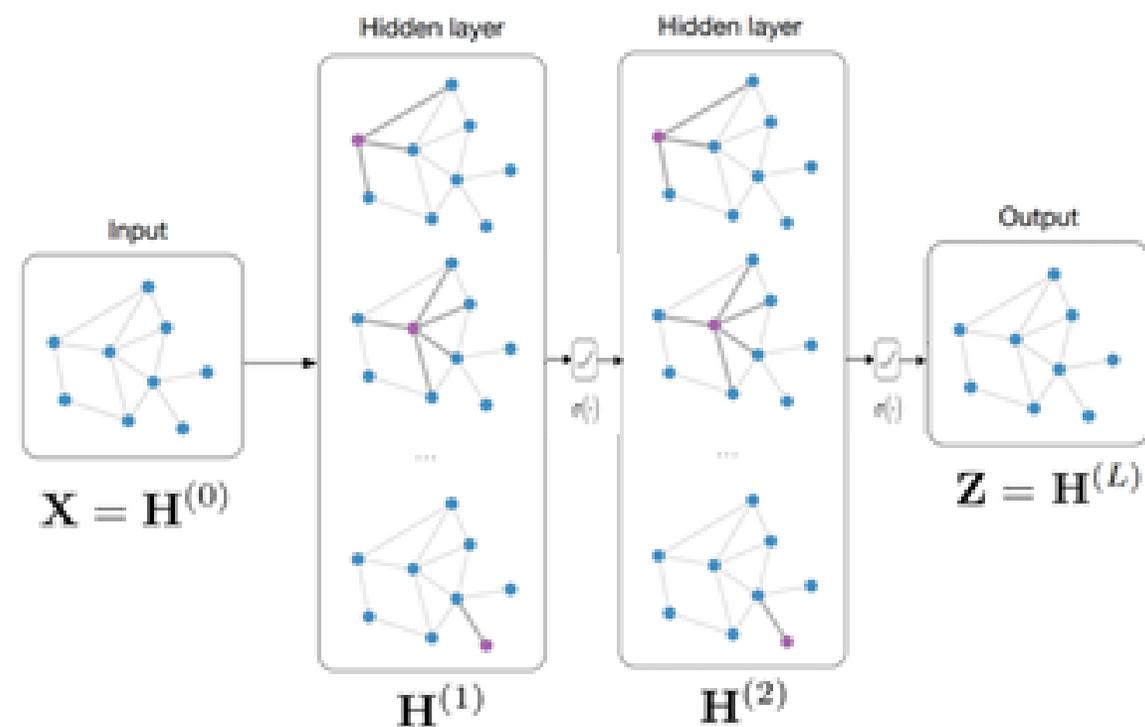
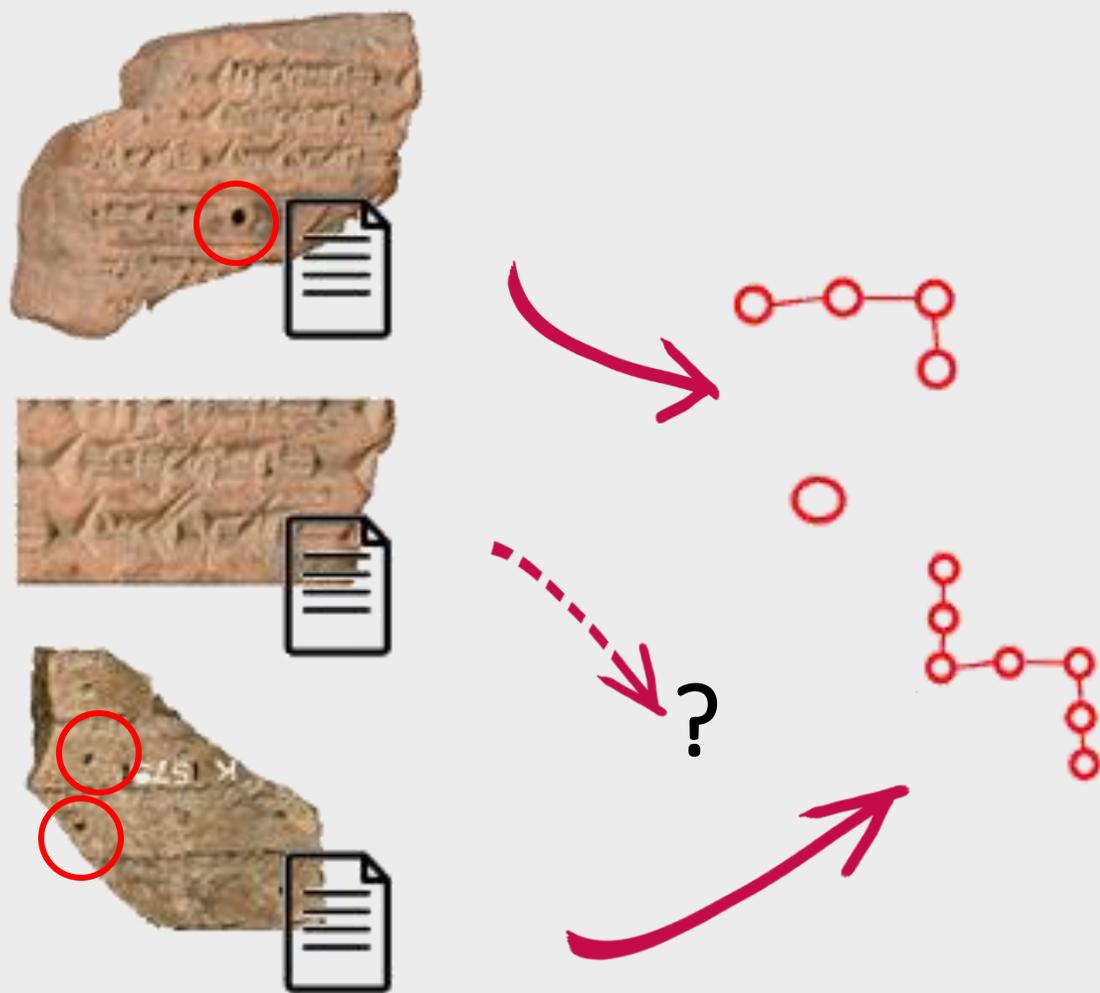


Università
Ca' Foscari
Venezia



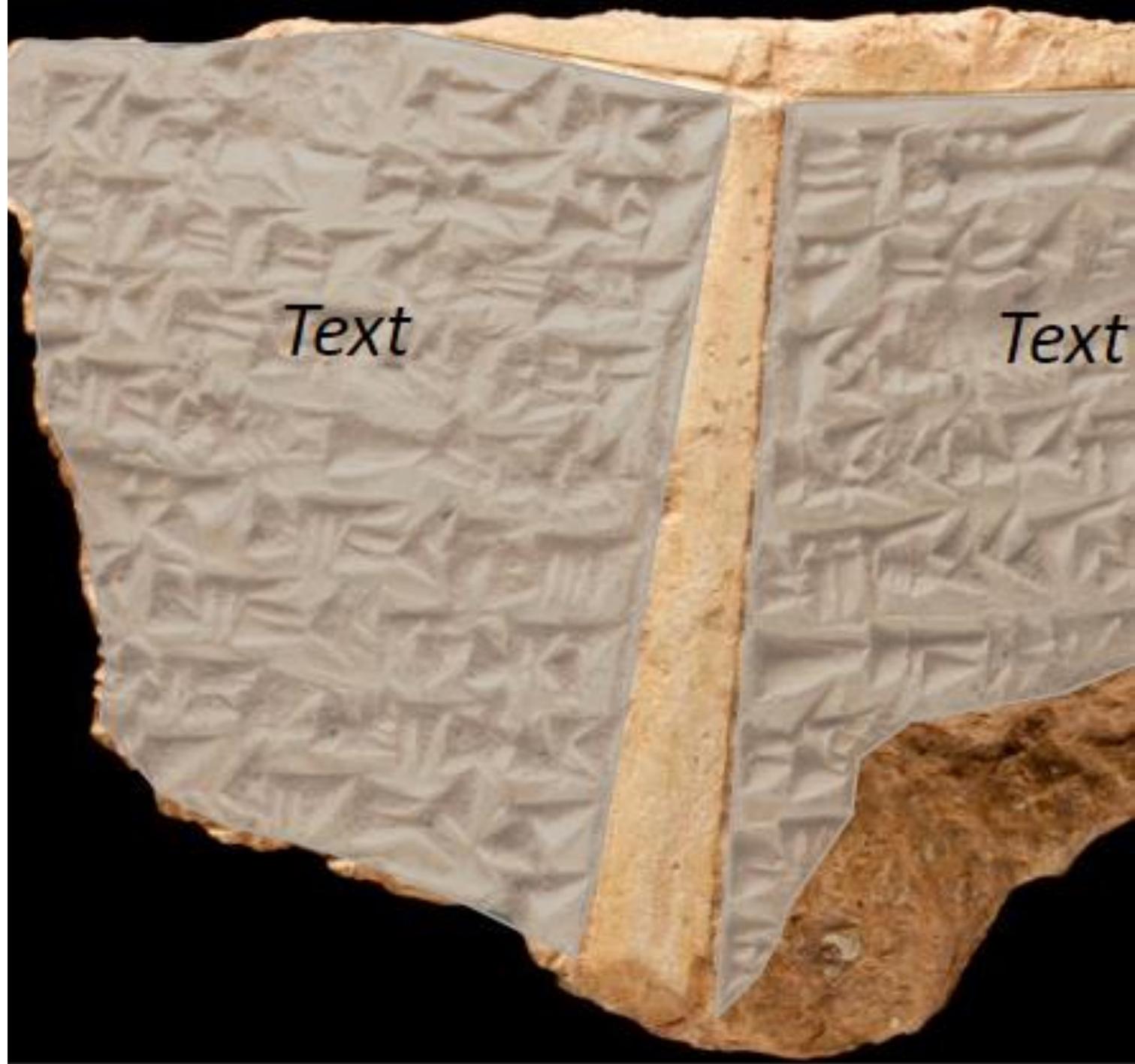
ISTITUTO ITALIANO
DI TECNOLOGIA

Décoder les signes épigraphiques



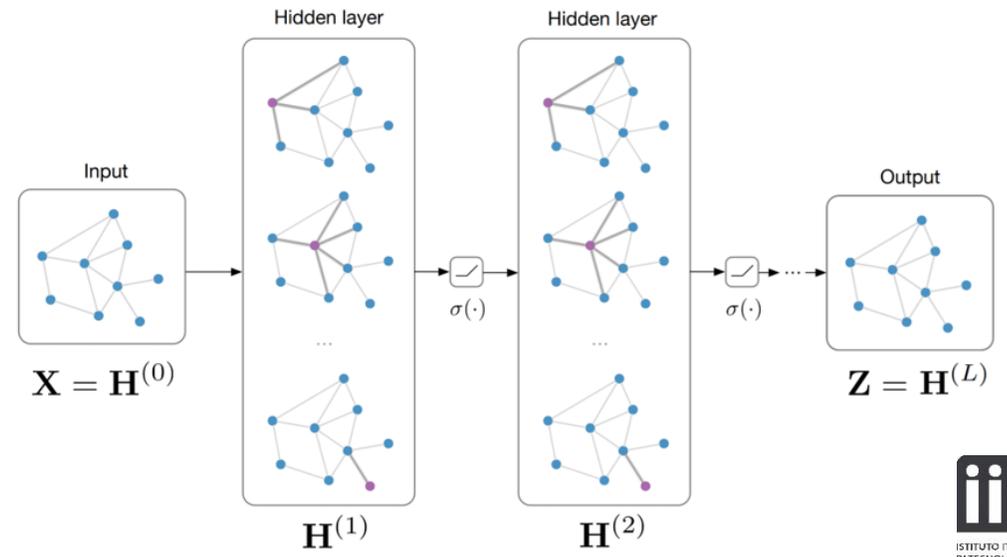
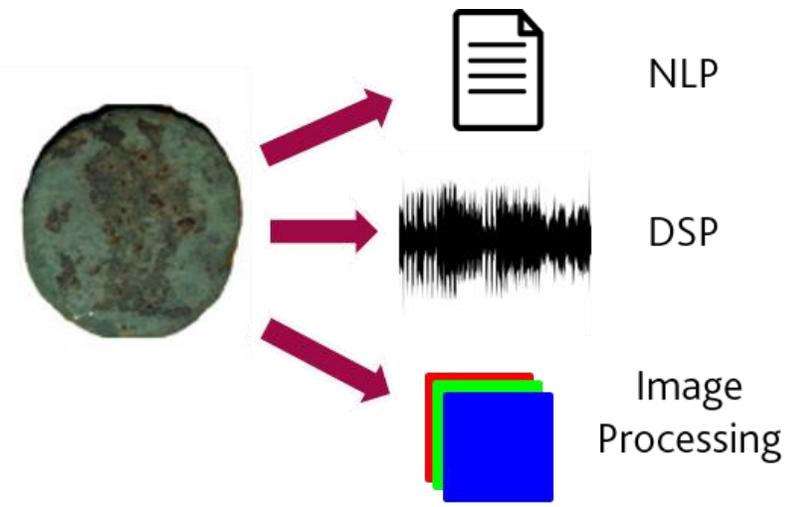
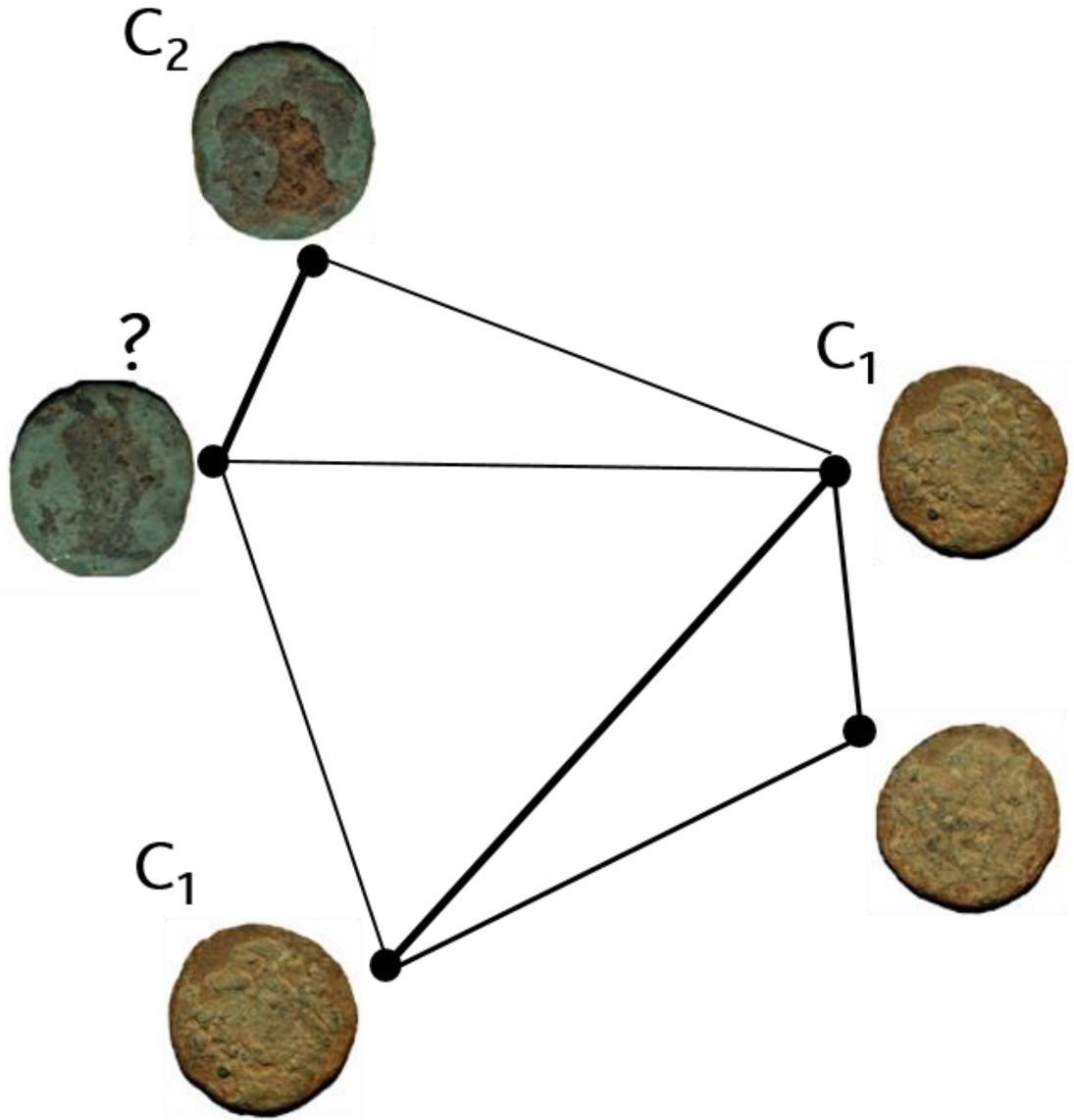
Extraire l'agencement du texte sur des tablettes cunéiformes

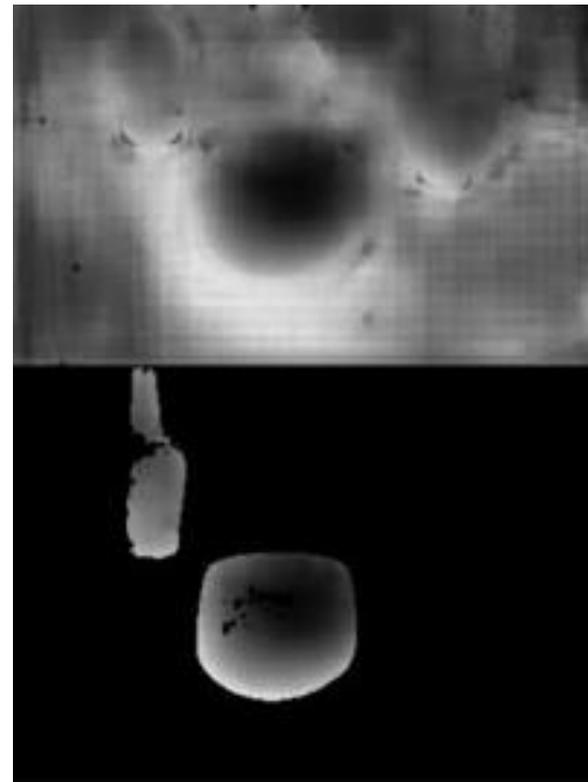
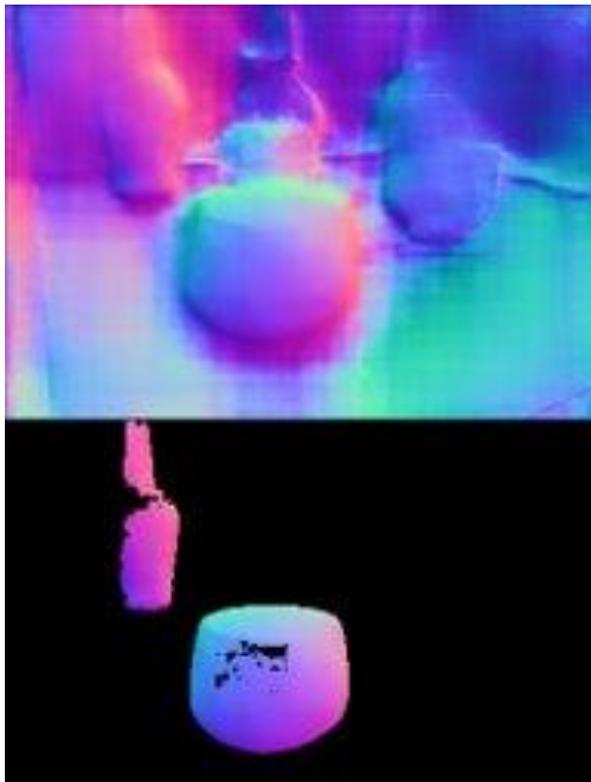
Segmenter en 2D les images de
tablettes: partie textuelle, partie
dégradée, etc.



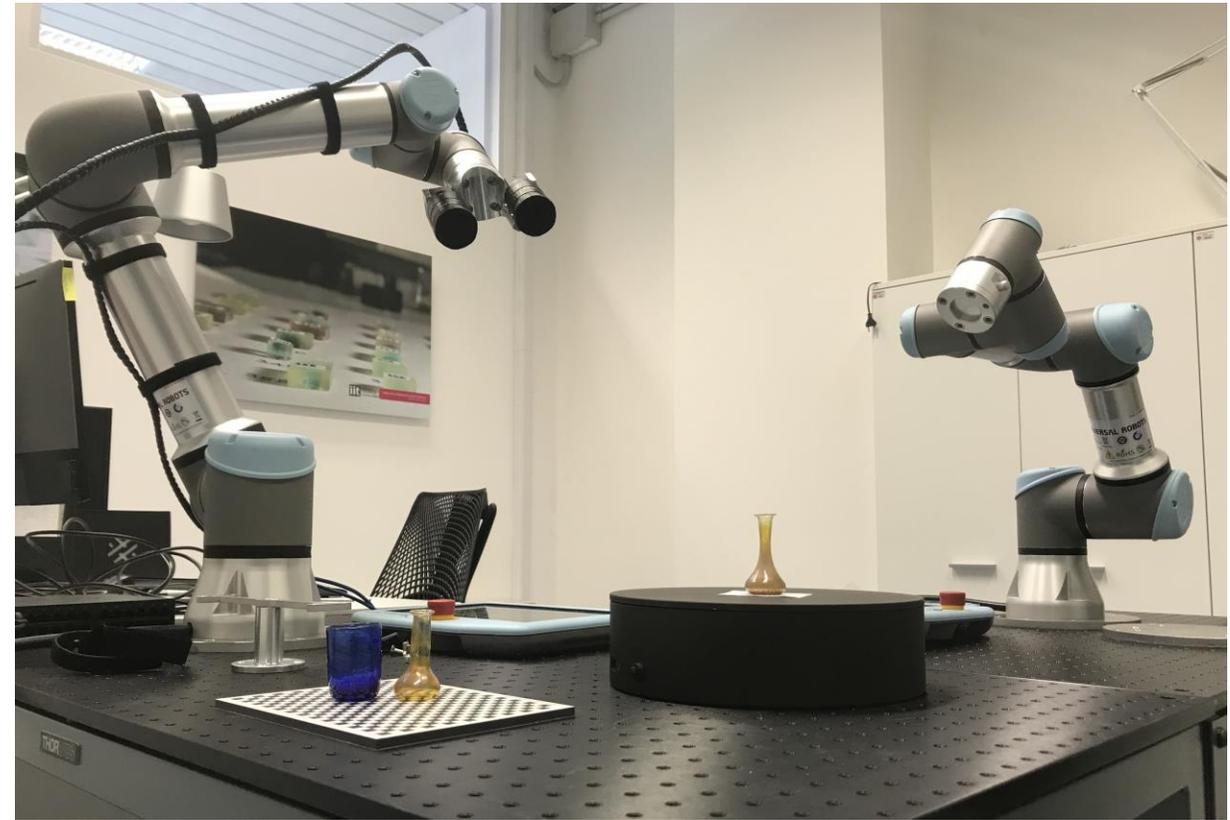


Identificazione automatica

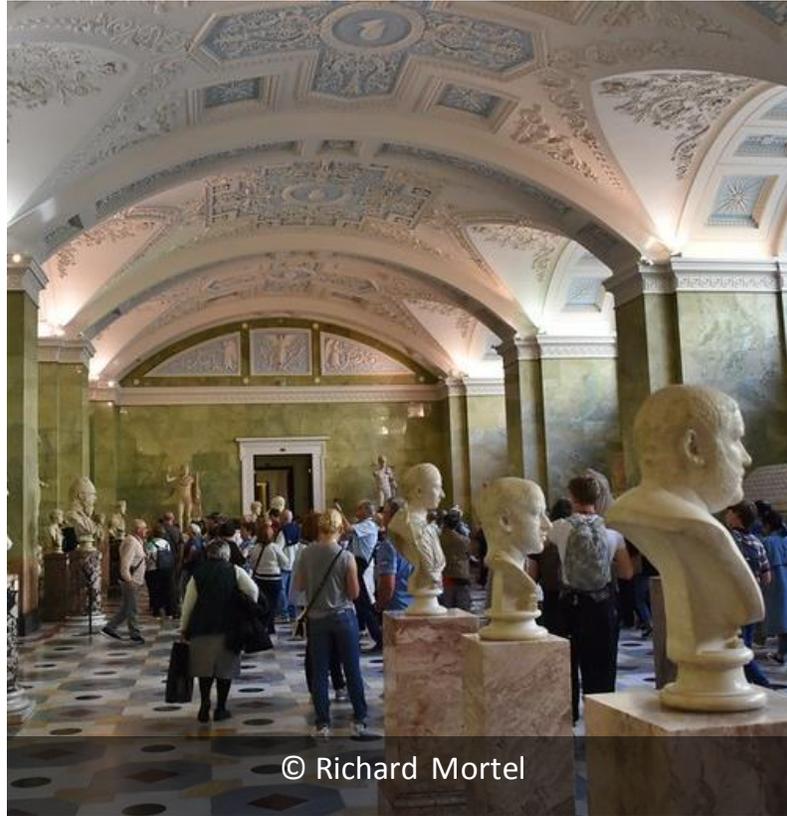
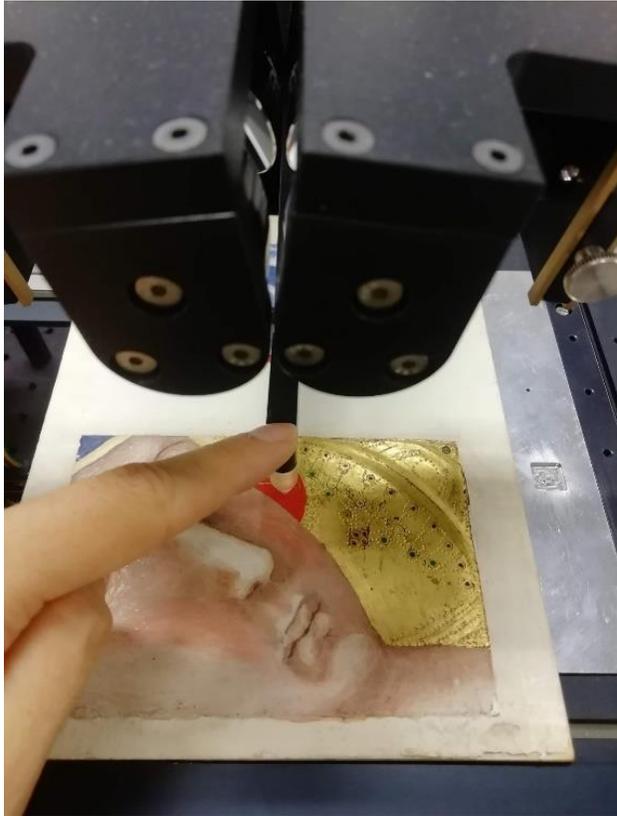




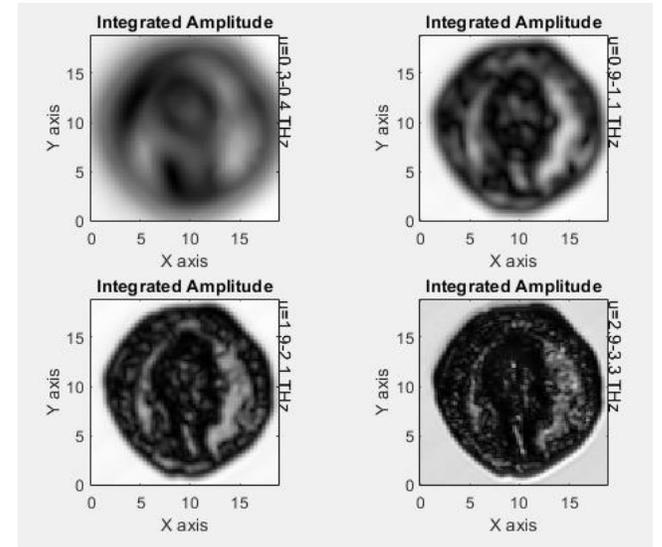
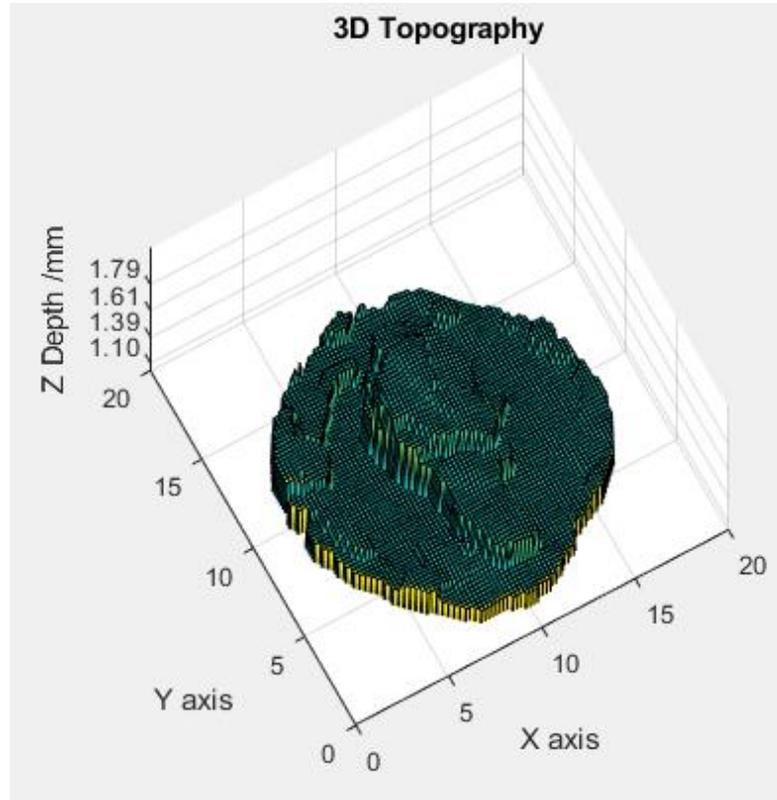
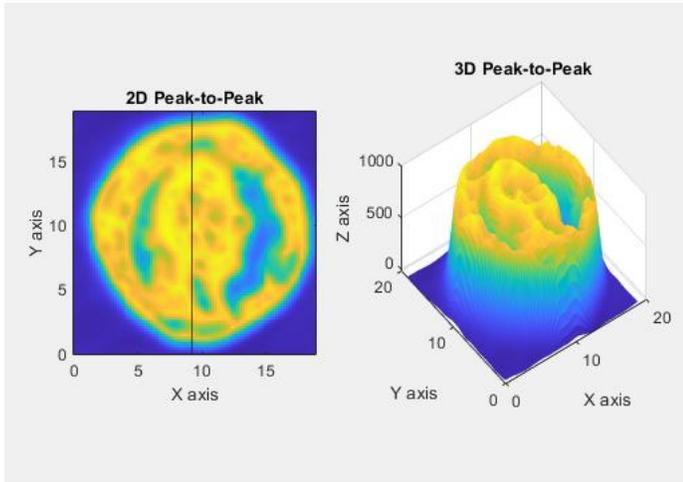
Automatisation des procédures de numérisation en 3D



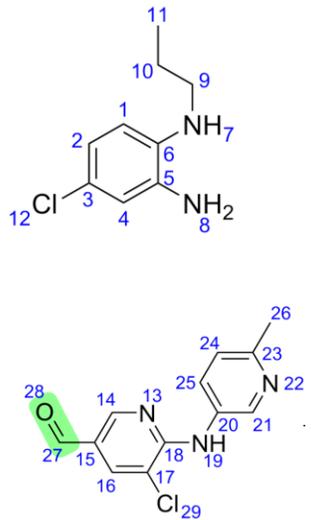
IA et robotique



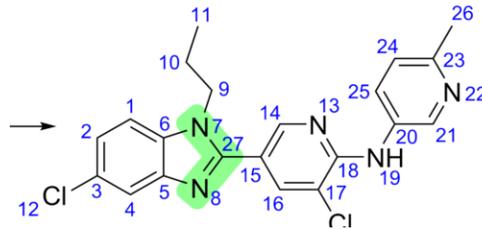
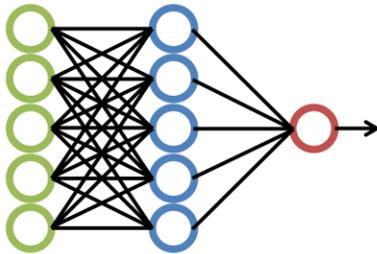
Analyse physico-chimique



Input



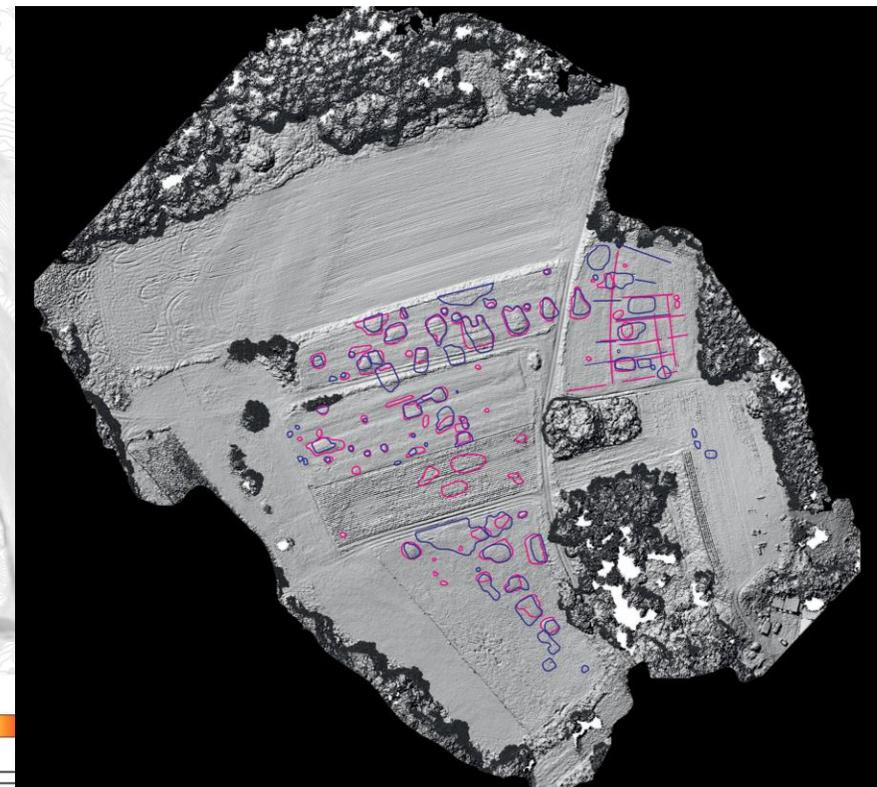
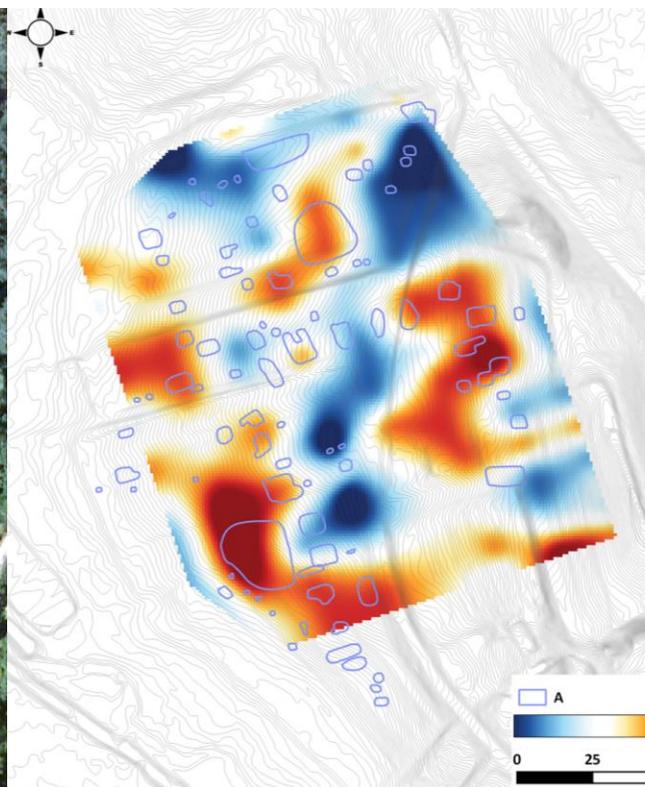
AI



Output



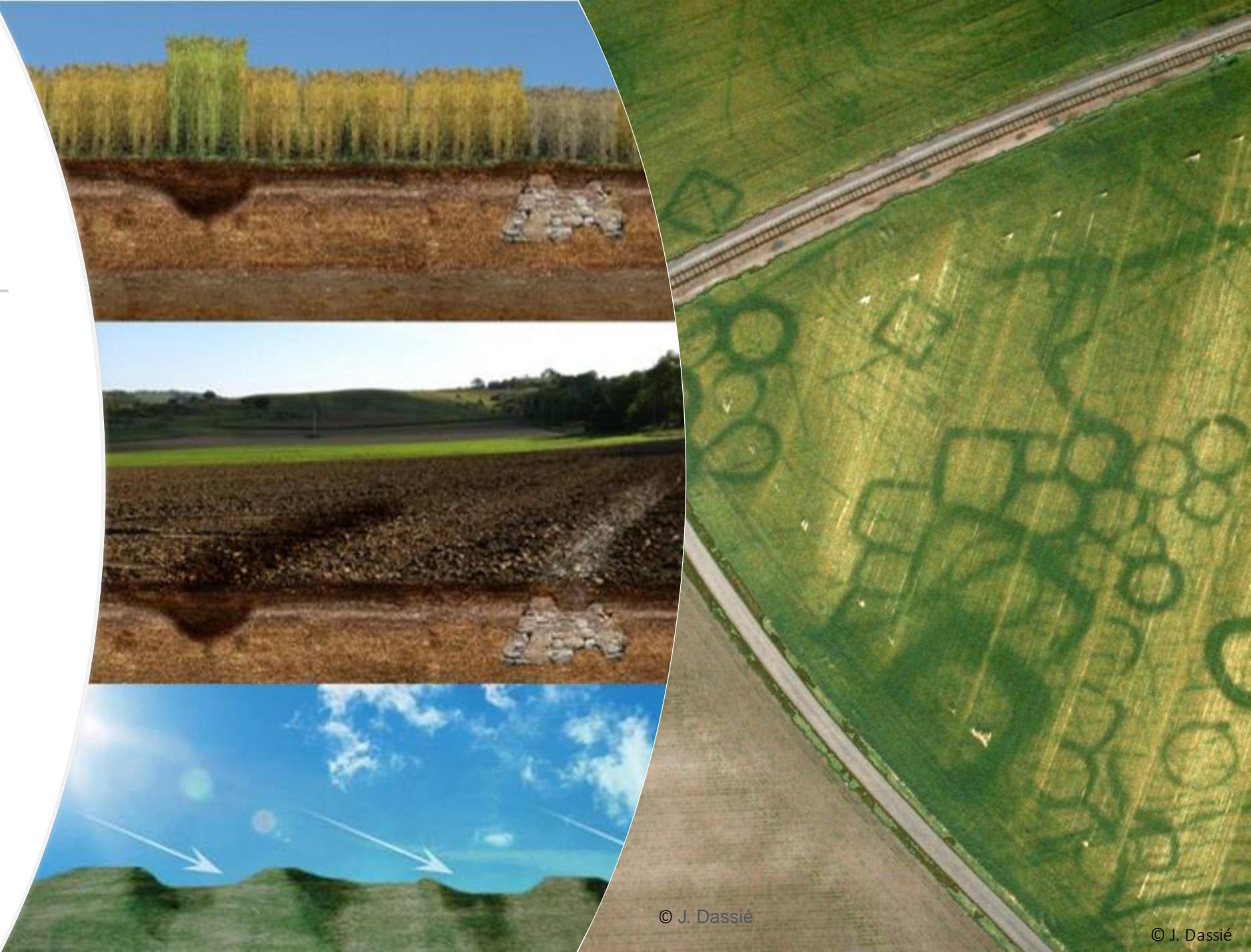
Détecter par l'IA le patrimoine culturel inconnu



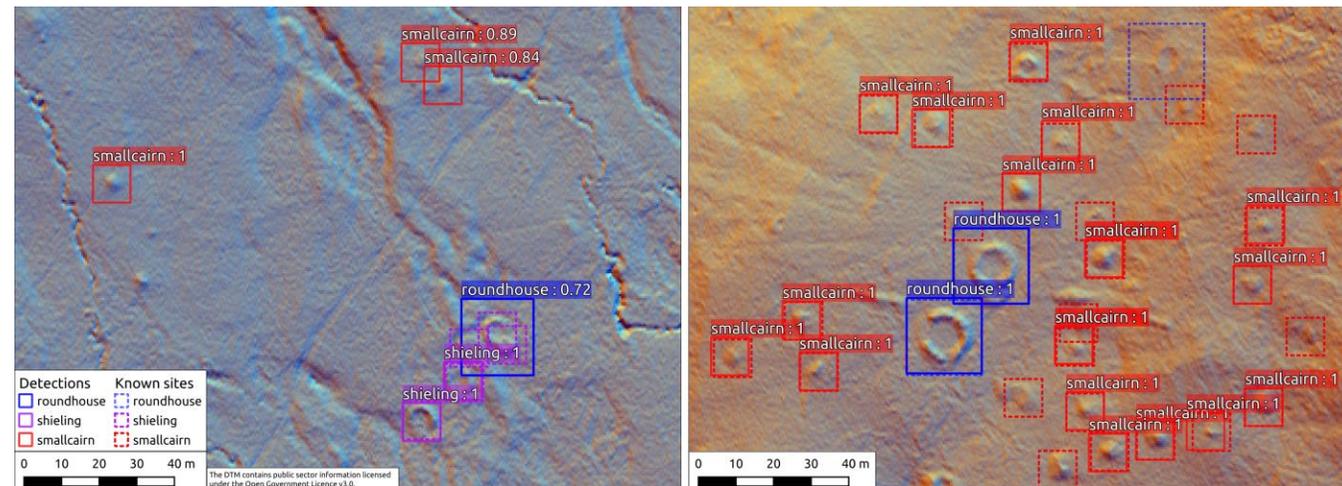
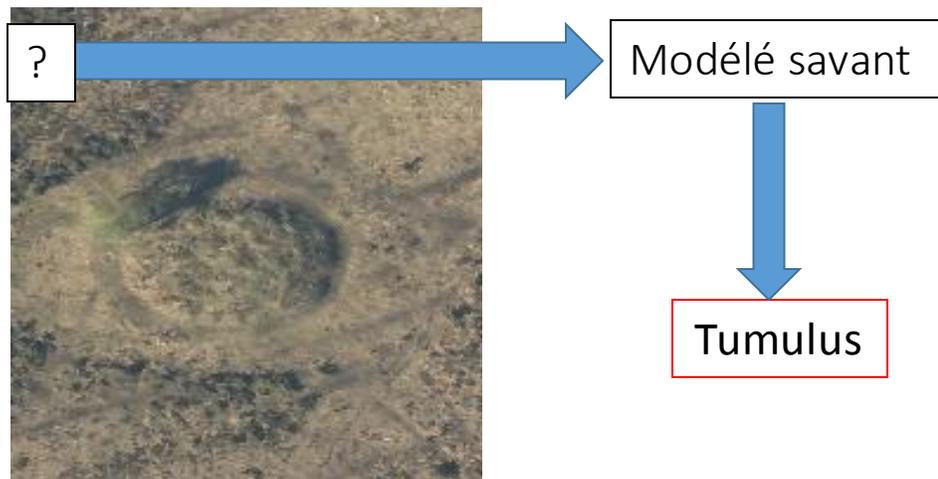
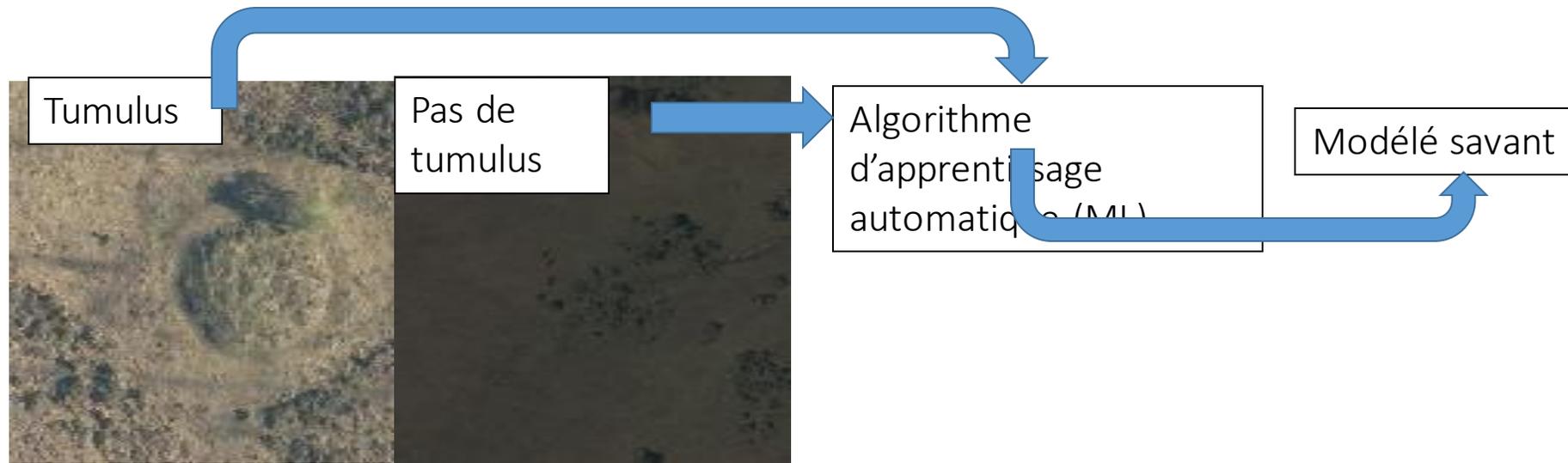
Dzwonowo (Poland) © Marcin Krzekopwski, Marcin Moeglich, Kasper Hanus, et al.

Détection

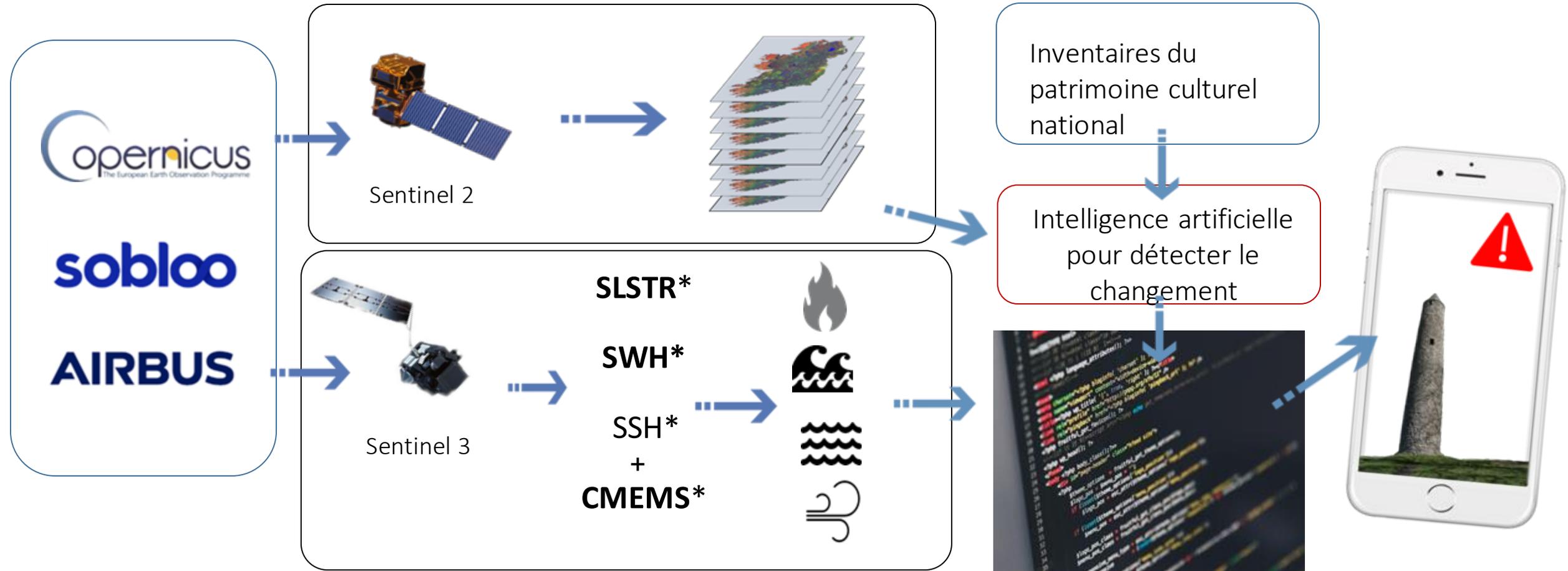
Le sol et la végétation
servent de “marqueurs” de
vestiges archéologiques
souterrains



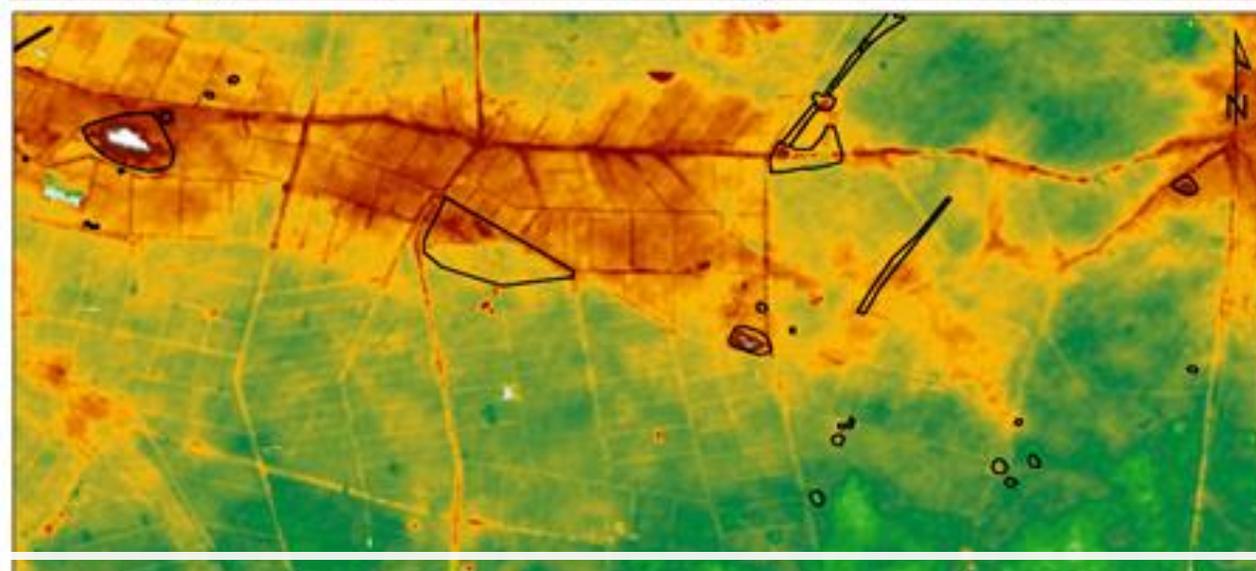
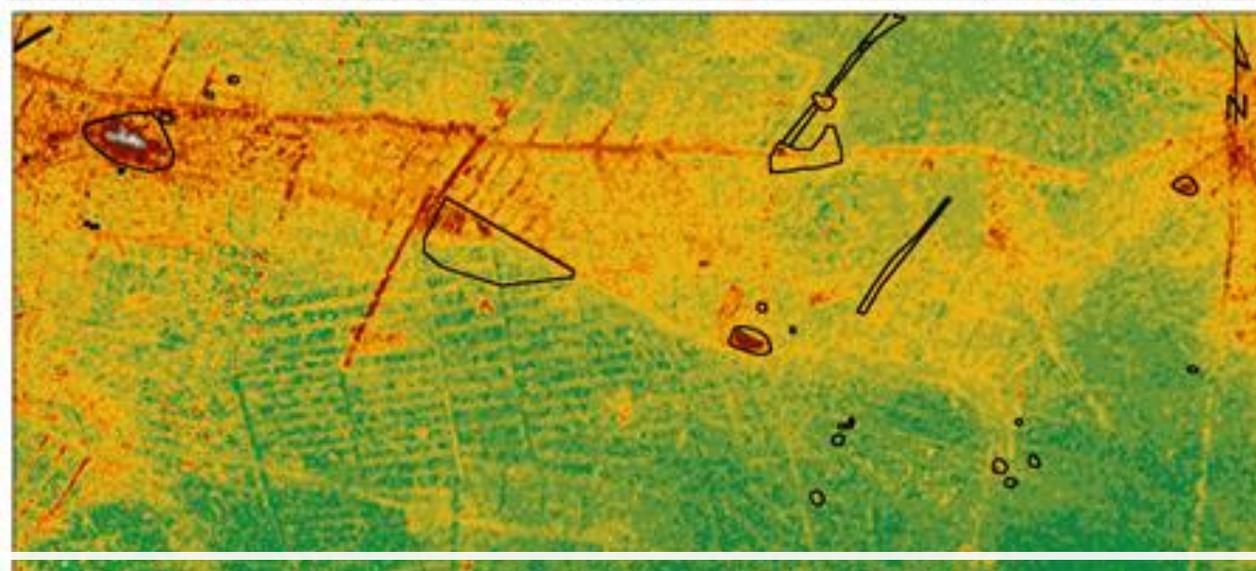
Détecter le patrimoine culturel par l'IA



Changement climatique, patrimoine culturel et IA

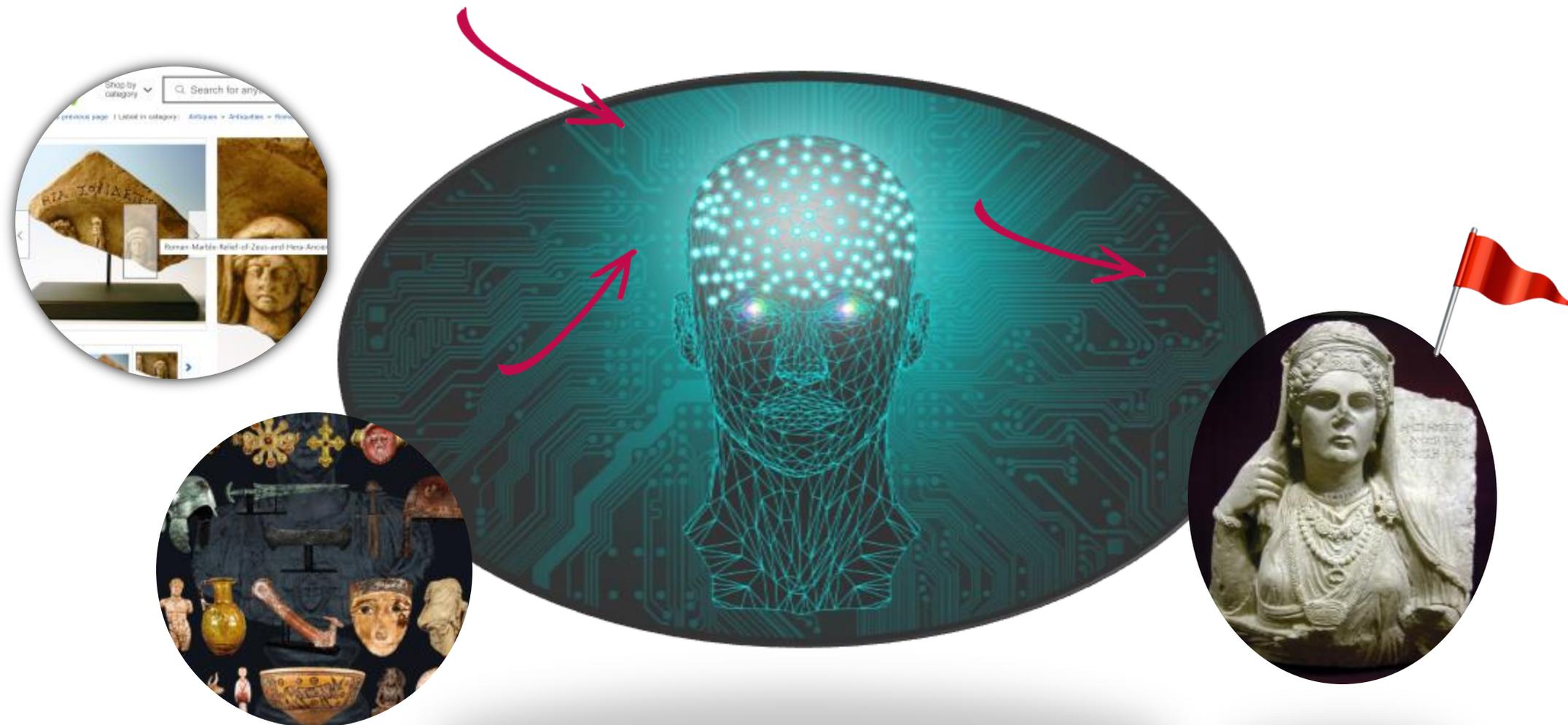


Indices liés au climat



Activités criminelles repérées par télédétection

Détection de la délinquance sur Internet



Détection de la délinquance liée à l'art



Art Recognition AG



Collage d'œuvres d'art du peintre expressionniste allemand Max Pechstein. Les images dans des rectangles en rouge sont des faux, identifiés par l'algorithme de la société Art Recognition AG.

Courtesy of: ArtRecognition (Zurich, Switzerland) www.art-recognition.com



Des technologies dites “exponentielles” toujours plus envahissantes

Impres-
-sion
3D

Drones

Réalité
virtuelle /
augmentée

Numéri-
sation de
masse

Robotique

Blockchain

Crédits

THINK EXPONENTIALLY

Droits d'auteur des images :

- Italian Institute of Technology
- Ca' Foscari University of Venice
- University of Oxford
- Google AI
- Deep Mind
- ArtRecognition

