Mohamed Chelali

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Applied Scientist

Artificial Intelligence and Computer Vision Expert, recently trained in MLOps to master automation, deployment, and continuous monitoring of machine learning models in production. Strong experience in developing AI engines for image and video analysis, with a background in applied research. Currently seeking an opportunity in the field of AI, where I can leverage my skills to contribute to innovative and high-impact projects.

WORK EXPERIENCE

AI Research/Applied Scientist June 2022 – May 2024
Jellysmack

- Design, prototyping, and production deployment of an AI engine
  - Development of an artificial intelligence engine capable of automatically summarizing videos to adapt to the specific requirements of each social network.
  - Creation of an internal database for training an automatic editing model.
  - Creation and optimization of video tags through Thumbnails to enhance visibility using various models such as CLIP or BLIP.
- Monitoring AI research and identifying new development topics.

Doctoral student and teacher-researcher October 2018 – May 2022
Université de Paris

- PhD Topic: Image Time Series Analysis Involving Spatial and Temporal Information, *mchelali.github.io/phd*
  Supervised by Prof. Nicole Vincent and Dr. Camille Kurtz
- Proposed two methods for image sequence analysis:
  - Temporal stability analysis.
  - Influence of data representation in deep learning.
- Application of the proposed methods in two case studies:
  - Land use mapping via satellite image time series.
  - Violence detection in security camera footage.
- Teaching computer science courses at the undergraduate level.

EDUCATION

Development formation DataScientest
MLOps *Augest 2024 - January 2025*

Ph.D. in Computer Science *Université de Paris*
Image Time Series Analysis *2018 – 2021*

Master in Computer Science *Université Paris Descartes*
Image and Plurimedia *2016 – 2018*

COMPUTER SCIENCE SKILLS

Web development: Flask, FastAPI, Bootstrap

Programming: Python (PyTorch, TensorFlow, MLFlow, OpenCV, Scikit-Learn, Gdal), C/C++ (OpenCV), Java.

Tools : HuggingFace, Amazon Web Services, Docker, QGis.

Artificiel Intelligence: Computer Vision, Natural Language Processing.

LANGUAGES

Langages : French (fluent), Arabic (fluent), English (professional proficiency)

SCIENTIFIC PUBLICATIONS

International Journals

Chelali, M., Kurtz, C., Puissant, A., Vincent, N., Deep-STaR: Classification of image time series based on spatio-temporal representations. *International Journal of Computer Vision and Image Understanding (CVIU)*, 2020

Chelali, M., Kurtz, C., Puissant, A., Vincent, N., Influence of data representations and deep architectures in image time series classification. *International Journal of Pattern Recognition and Artificial Intelligence (IJPRAI)*, 2020

French Conferences

Chelali, M., Kurtz, C., Puissant, A., Vincent, N., Des pixels aux segments pour la classification de séries temporelles d'images via des réseaux de neurones convolutionnels. *Conférence Reconnaissance des Formes, Image, Apprentissage et Perception (RFIAP)*, 2020

Chelali, M., Kurtz, C., Puissant, A., Vincent, N., Classification de séries d'images via une représentation spatio-temporelle. *Atelier sur l'Apprentissage Profond dans le cadre de la Conférence Extraction et Gestion des Connaissances (APTA@EGC)*, 2020

International Conferences

Chelali, M., Kurtz, C., Vincent, N., Violence detection from video under 2D spatio-temporal representations. *International Conference of Image Processing (ICIP)*, 2021

Chelali, M., Kurtz, C., Puissant, A., Vincent, N., Classification of spatially enriched pixel time series with convolutional neural networks. *International Conference on Pattern Recognition (ICPR)*, 2020

Chelali, M., Kurtz, C., Puissant, A., Vincent, N., From pixels to Random Walk based segments for image time series deep classification. *International Conference on Pattern Recognition and Artificial Intelligence (ICPRAI)*, 2020

Chelali, M., Kurtz, C., Puissant, A., Vincent, N., Spatio-temporal stability analysis in Satellite Image Times Series. *International Conference on Pattern Recognition and Artificial Intelligence (ICPRAI)*, 2020

Chelali, M., Kurtz, C., Puissant, A., Vincent, N., Image time series classification based on a planar spatio-temporal data representation. *International Conference on Computer Vision Theory and Applications (VISAPP)*, 2020

Chelali, M., Kurtz, C., Puissant, A., Vincent, N., Urban land cover analysis from satellite image time series based on temporal stability. *IEEE Joint Urban Remote Sensing Event (JURSE)*, 2019