Paul Gay

Green AI UPPA & indexation multimédia

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French (mother tongue), Spanish, Italian, English

https://paulgay.github.io

Education

2011 - 2014 **Phd thesis: Audiovisual person indexing in broadcast news**.
Context: news content understanding projects EUMSSI and REPERE campaign
Key words: Conditional random fields, face and speaker identification and clustering
Advisors: Sylvain Meignier, LIUM laboratory (Le Mans, France) et Jean-Marc Odobez, IDIAP Research Institute (Martigny, Suisse).

2011 **Master degree of electrical engineering: Information System Architectures (ASI)**, *Institut National des Sciences Appliquées (INSA)*, Rouen, France.

2011 **Master degree: Multimedia Information Processing System (STIM)**, *Université de Rouen, France.*

Projects and positions in chronological order

Since 2022 **Research Engineer**, *CNRS, LISN laboratory*, Orsay, France.
- Estimation of the Environmental impact of an AI data center.

2020-2023 **Teaching assistant**, *Cytech school, Pau, France.*
- Master classes : Deep learning and a bit of C++.

2021 - 2022 **Research Engineer**, *Université de Pau et des pays de l'adour.*, Pau, France.
- Embedded IA and energy consumption.
- Environmental applications of IA (Social computing, Crisis management, Visual Fish detection)

2018- 2021 **Machine learning Engineer**, *LumenAI*, Pau, France.
- Document indexing, named entity recognition.
- Clustering on temporal graphs, Graph neural networks.

2016- 2018 **Post-Doc**, *Istituto italiano di tecnologia, VGM group*, Genova, Italy.
- Combination of Graphical models and deep learning technique.
- Relationship detection, 3D reconstruction

2014- 2015 **ATER**, *Laboratoire Informatique d'Avignon*, Avignon, France.
- Teaching assistant (ATER). Various classes in computer sciences: programming, distributed architectures.

Machine learning skills.

Data science Bayesian models, matrix factorisation, linear programming.
Deep learning Graph neural networks, CNNs, Transformers.
Vision Object Detection/Tracking, SfM.
Graphs Spectral clustering, Louvain
NLP Word2vec, Transformers, NER.
Audio Speaker diairzation.

Programming

Tools: Tensorflow, Pytorch, Spacy, OpenCV, Linux, Git.
Languages: Python, Java, C/C++, Matlab.
Web: Web services Tornado, flask, Django.

Sélection de publications

Ces publications retracent mon parcours en audiovisuel sur l'indexation (clustering) des personnes, puis mes travaux plus récents en vision par ordinateur pendant mes séjours dans les laboratoires académiques. Mes travaux au sein de la start-up LumenAI et de l'université de Pau n'ont pas été publiés.

ACCV 2018 **Visual Graphs from Motion (VGfM): Scene understanding with object geometry reasoning**, *Paul Gay, Stuart James, Alessio Del Bue.*, IEEE Asian conference in computer vision.

ICCV 2017 **Probabilistic Structure from Motion with Objects**, *Paul Gay, Vaibhav Bansal, Cosimo Rubino, Alessio Del Bue.*, IEEE International Conference on Computer Vision.

ICASSP 2014 **A conditional random field approach for audio-visual people diarization**, *Paul Gay, Elie Khoury, Sylvain Meignier, Jean-Marc Odobez.*, IEEE International Conference on Acoustics, Speech, and Signap Processing.

INTERSPEECH 2013 **An Open-source State-of-the-art Toolbox for Broadcast News Diarization**, *Mickaël Rouvier, Grégor Dupuy, Paul Gay, Elie Khoury, Teva Merlin and Sylvain Meignier*, International Speech Communication Association.

Profil Google scholar:

`https://scholar.google.fr/citations?user=TwBT4HEAAAAJ&hl`