Charlotte Laclau

Associate professor
Qualification in sections 26, 27 and 61

Télécom Paris, LTCI
19 place Marguerite Perey, 91120 Palaiseau, France
(+33)(0)650344988
charlotte.laclau@telecom-paris.fr
Age: 32

Professional appointments

2022– present **Associate professor**, Télécom Paris, Institut Polytechnique de Paris, LTCI, S2A team.
Working on statistical machine learning and data mining
- Fairness in Machine Learning
- Representation learning for complex data
- Game theory and Deep Learning

2018–2022 **Associate professor**, Télécom Saint-Etienne/Hubert Curien Laboratory, Data Intelligence team.

2016–2018 **Post-doc. fellow**, Grenoble computer science laboratory, AMA team.
Working on ranking models for recommendation systems with two companies: Kelkoo and Purch (FUI Project).

2012 – 2016 **PhD in Computer Science, specialization in Data Science**, *Paris Sorbonne Cité University*, Machine Learning for Data Science (MLDS) team.
- PhD supervisor: Mohamed Nadif
- Subject: Hard and fuzzy block clustering algorithms for high dimensional data

2015 **Visiting PhD student**, *Canadian Grant (Big Data Project)*, University of Ottawa - Imagine Lab, 6 months.

2014 **Visiting PhD student**, *Mobility Grant*, Universidade Federal de Pernambuco - Centro de Informatica, 4 months.

Research activities

Ongoing Projets and Grants

Member of CNRS project Diké, Bias, fairness and ethics of compressed NLP models, Collaboration with University of Lyon 2 (ERIC) and NaverLabs Grenoble.
Total: 500k euros

Member of CNRS project UNDERNEATH, Understanding deep neural networks through game theory, Collaboration with I. Redko.
Total: 150k euros

Member of "AI meets Design" project financed by UJM Foundation, Design of art objects with Generative Adversarial Networks, Collaboration with ACCRA and CIEREC laboratories.
Total: 15k euros

Grant holder within IDEX Lyon/Saint-Etienne, *Impulsion*, Learning Representations for Dynamic Networks.
Total: 70k euros

Student Supervision

Thesis.
- Present - F. Torba: Natural language processing in the context of responding to complex calls for tenders, co-supervised with C. Gravier and AItenders
- Present - M. Choudhary: Fairness for graph mining, co-supervised with C. Largeron (50%)
- Present - R. Chevasson: Wasserstein embeddings for language model visualization and document clustering, co-supervised with C. Gravier (50%)
- 2016-2018 - S. Sidana: Recommendation systems for online advertising, co-supervised with M.R. Amini

Postdoc.
- 2020-2021 - J. Tissier: Representation learning for dynamic graphs (100%)

Master's student internships (recent).

- T. Leteno: Exploring bias in compressed language models (2022)
- B. Ethève: Automatic diagnosis of symptoms of systemic sclerosis (SSc) (2021)
- N. Vesseron: Deep neural networks and congestion games (2021)
- D. Moorthy: IA for creativity (2020)
- R. Mittakola: Representation learning for dynamic PPI networks (2020)

Community service

Conferences.

- 2022 SSFAM/MALIA@JdS: organisation of a session on geometry and machine Learning with Franck Iutzeler.
- 2022 @ECML-PKDD: Co-chair for the workshop/tutorial track; PC member for the conference track and the journal track
- 2021: CAp@Saint-Etienne, National Conference on Machine Learning, program and organisation comity
- 2018: SSFAM@SFdS session, 50èmes Journées de Statistique de la SFDS
- 2017: CAp@Grenoble, National Conference on Machine Learning, program and organisation comity

Reviewer.

Data Mining and Knowledge Discovery, Machine Learning Journal, Statistics and Computing, ICML, NeurIPS, IJCAI, ECIR, AIStat, SIGIR

Other

2021-present **Member of the International Emerging Actions (IAE) between the Data Intelligence Team and the Alberta Machine Intelligence Institute (AMII)**.

- Active participation in the creation of the IAE
- Scientific stays planned in May 2022 in Alberta
- Co-organisation of a workshop

2018-2020 **Co-head of the ATLAS research group, GdR MADICS**.

On Machine Learning applied to healthcare problems

- Co-organisation of two workshops
- Co-organisation of a 2-days training workshop in collaboration with the Institute for Brain and Spinal Cord.

2019-2021 **Elected member of the MALIA research group of SFDS**.

- Training course of DataViz with Python (JDS 2021)
- Organisation of a session on Privacy preserving Machine Learning (JDS 2020)
- Organisation of a session on Geometry and Machine Learning (JDS 2022)

2018-2021 **Vice-President of the Société Savante Francophone d'Apprentissage Machine (SSFAM)**.

Publications

11 articles in international peer-reviewed conferences (core ranking A* and A); 5 articles in peer-reviewed journals (Q1); 4 articles in national conferences.

Selected peer-reviewed conferences

Tissier J., Laclau C., *Understanding the Benefits of Forgetting when Learning on Dynamic Graphs*, ECML-PKDD, 2022.

Vesseron N., Redko I., Laclau C., *Deep Neural Networks Are Congestion Games: From Loss Landscape to Wardrop Equilibrium and Beyond*, AISTAT, 2021.

Laclau C., Redko I., Choudhary M., Largeron C., *All of the Fairness for Edge Prediction with Optimal Transport*, AISTAT, 2021.

Redko I. , Laclau C., *On Fair Cost Sharing Games in Machine Learning*, AAAI, 2019.

Sidana S. , Laclau C. et Amini M.-R., *Learning to Recommend Diverse Items over Implicit Feedback on PANDOR*, RecSys, 2018.

Balikas G., Laclau C., Redko I., Amini M.-R., *Cross-lingual Document Retrieval using Regularized Wasserstein Distance*, ECIR, 2018.

Laclau C., Redko I., Matei B., Brault V., Bennani Y., *Co-clustering through Optimal Transport*, ICML, 2017.

Sidana S., Laclau C., Amini M.-R., KASANDR*: a Large Scale Dataset with Implicit Feedback for Recommendation*, SIGIR, 2017.

Selected journals

A. Burashnikova, M. Clausel, C. Laclau, F. Iutzeler, Y. Maximov, M-R. Amini., *Learning over no-Preferred and Preferred Sequence of items for Robust Recommendation*, Journal of Artificial Intelligence Research, 2021.

S. Sidana, M. Trofimov, O. Horodnytskyi, C. Laclau, Y. Maximov, M-R. Amini, *User preference and embedding learning with implicit feedback for recommender systems*, Data Mining and Knowledge Discovery, pages 1–25, 2021.

Laclau C. and Brault V., *Noise-free Latent Block Model for High Dimensional Data*, Data Mining and Knowledge Discovery, pages 1–25, 2018.

Pre-prints

Chevasson R., Laclau C., Gravier C., *Diverse Paraphrasing with Insertion Models for Few-shot Classification*, under review.

Choudhary M., Laclau C., Gourru A. and Largeron C., *Learning Fair Variational Embedding with Graph Neural Networks*, under review.

Choudhary M., Laclau C. and Largeron C., *A Survey on Fairness for Machine Learning on Graphs*, under review, available on arxiv.

Brault V., Devijver E., Laclau C., *Mixture of Segmentation for Heterogeneous Functional Data*.

Teaching Activities

2018 - 2022 **Télécom Saint-Etienne (Engineering school)**.
Introduction to programming and algorithmics, Introduction to Machine Learning, Advanced Machine Learning, Javascript for web application (frond and backend), Cloud Computing (with AWS), Big Data Project (final year)

2021 **Machine learning and Data Mining Master's program**, *University Jean Monnet*.
Lecture on Data for Machine Learning; Machine Learning Projects (Kaggle Competition).

2017 **Statistical Tools for Data Science - Doctoral school**, Grenoble University.
Development of a doctoral training course for PhD students from various domains wishing to learn the basics of data analysis and machine learning.

2017–2018 **Ensimag (Engineering School)**, Grenoble.
Data Analysis and multidimensional statistics.

2015–2016 **IUT de Paris Descartes (assistant professor)**.
Advanced Databases, Web programming, Programmation with R