

Marina Gardella

<https://marinagardella.github.io/>

Curriculum Vitae

Last update: January 22, 2024

Date of Birth: September 3, 1992

Nationality: Uruguayan

✉ marigardella@gmail.com

☎ +33656674144

EDUCATION

- 2020 - 2023 **Ph.D. in Mathematics, Centre Borelli, École Normale Supérieure Paris-Saclay, Université Paris-Saclay.** Thesis entitled *The avatars of noise in digital images and their use in image forensics*, written under the supervision of Dr. Miguel Colom, Prof. Jean-Michel Morel and Prof. Pablo Musé.
- 2017 - 2019 **Master in Mathematical Engineering, School of Engineering, Universidad de la República.** Thesis entitled *General Equilibria*, written under the supervision of Prof. Dr. Elvio Accinelli.
- 2011 - 2017 **Bachelor in Mathematics, School of Sciences, Universidad de la República.** Undergraduate thesis entitled *Dynamics on the Annulus*, written under the supervision of Prof. Dr. Jorge Iglesias.
- 2012 - 2016 **Bachelor in Economics, School of Economics Sciences and Administration, Universidad de la República.**

EMPLOYMENT

- Jan. 2024 - Present **Postdoc Researcher**, Centre Borelli, École Normale Supérieure Paris-Saclay, Université Paris-Saclay.
- Sep. 2021 - Present **Teaching Assistant**, Préparation au concours de l'agrégation externe de sciences économiques et sociales, École Normale Supérieure Paris-Saclay, Université Paris-Saclay.
- Sep. 2020 - Dec. 2023 **PhD Allocation**, Centre Borelli, École Normale Supérieure Paris-Saclay, Université Paris-Saclay.
- Sep. 2020 - Aug. 2021 **Teaching Assistant**, Institut Universitaire de Technologie de Sceaux, Université Paris-Saclay.
- Sep. 2019 - Sep. 2020 **Research Internship**, Centre Borelli, École Normale Supérieure Paris-Saclay, Université Paris-Saclay.
- Feb. 2014 - Feb. 2019 **Teaching Assistant**, Department of Mathematics, School of Engineering, University of the Republic
- May 2017 - Dec. 2017 **Individual Contractor**, United Nations Economic Commission for Latin America and the Caribbean (ECLAC).
- Feb. 2015 - Jul. 2016 **Teaching Assistant**, Department of Quantitative Methods, School of Economics Sciences and Administration, University of the Republic
- May 2013 - Jul. 2013 **Teaching Assistant**, Department of Mathematics, School of Sciences, University of the Republic

PARTICIPATION IN PROJECTS

- 2023 - Present **CollabNext.** Project funded by France 2030 investment plan. The goal is to develop a french collaborative platform in the cloud.

2022 - Present	Vera.ai. Project co-funded by the European Commission and the UK and Swiss authorities with the goal of developing and deploying a variety of artificial intelligence solutions against disinformation.
2022 - Present	APATE. Project funded by the French National Research Agency (ANR). The goal of APATE is to advance the state of the art on deepfakes detection methods, related to the audio, images and temporal components of the video, with the necessary environment to make them usable by experts in court.
2021	Envisu4. Project awarded with a grant by the International Fact-Checking Network. During 6 month, we developed together with the AFP Medialab and the CErTH Institute an enhanced and improved version of the InVid verification plug-in which has been already released.
2017 - 2021	Challenge DEFALS. Image forgery detection challenge organised by the ANR and the General Directorate for Armament (DGA).
2015	MOEBIUS. Project carried out by University professors together with high school teachers with the purpose of developing students' capabilities to face different problems.

RESEARCH STAYS

Aug. 2023 - Sep. 2023	Duke University, USA. Invited by Guillermo Sapiro.
Dec. 2022 - Feb. 2023	Universidad de la República, Uruguay. Invited by Pablo Musé.
Jan. 2018 - Jan. 2018	Henri Poincaré Institute, France. Participating in the mathematics of imaging thematic quarter.
Sep. 2018	Universidad Autónoma San Luis Potosí, Mexico. Invited by Elvio Accinelli.

ADDITIONAL TRAINING

Jan. 2017 - Mar. 2017	Instituto de Matemática Pure e Aplicada (IMPA), Brasil. Summer course "Introduction to Mathematical Economics", approved with A+.
-----------------------	--

SUPERVISION

2023	Bachelor supervisor (together with Pablo Musé and Matías Tailanián) of Julian O'Flaherty, Rodrigo Paganini, Juan Pablo Sotelo and Julieta Umpierrez; Facultad de Ingeniería, Universidad de la República.
2020	Bachelor supervisor (as <i>encadrant junior</i> , together with Miguel Colom) of Enguérand Chary and Syrine Kalleli; Centre Borelli, ENS Paris-Saclay.

AWARDS AND GRANTS

2023	Top three best posters award at KHIPU, Latin America Meeting in Artificial Intelligence.
2022	Best student paper award at the MIBriefs Workshop.
2021	Best student paper award at the 9th IEEE International Workshop on Biometrics and Forensics (IWBF).
2017 - 2019	PhD grant given by <i>Région Île de France</i> .
2017 - 2019	Masters grant given by the Universidad de la República.

FOREIGN LANGUAGES

English	University of Michigan Certificate of Proficiency in English (Nov. 2010).
French	Delf B2 (Nov. 2010).
Portuguese	Three-year course (2008-2010). Basic communication level (written and oral).

Marina Gardella

<https://marinagardella.github.io/>

List of Publications

Last update: January 22, 2024

Date of Birth: September 3, 1992

Nationality: Uruguayan

✉ marigardella@gmail.com

☎ +33656674144

CONFERENCE AND JOURNAL

- **Diffusion models meet image counter-forensics**, M. Tailanián, M. Gardella, A. Pardo, P. Musé. *IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)*, 2024.
- **SiamTE: Siamese Trace Erasing for camera trace extraction**, M. Gardella. Accepted for publication in *Image Processing On Line (IPOL)*, 2023.
- **Image forgery detection based on noise inspection: analysis and refinement of the Noisesniffer method**, M. Gardella, P. Musé, M. Colom, J.-M. Morel. [Preprint] *Image Processing On Line (IPOL)*, 2023.
- **PRNU-based source camera statistical certification**, M. Gardella, P. Musé, M. Colom, J.-M. Morel, D. Perraud. *IEEE International Workshop on Information Forensics and Security (WIFS)*, 2023.
- **A Contrario Detection of H.264 Video Double Compression**, Y. Li, M. Gardella, Q. Bammey, T. Nikoukhah, R. Grompone von Gioi, M. Colom, J.-M. Morel. *IEEE International Conference on Image Processing (ICIP)*, 2023.
- **Détection a contrario de la double compression vidéo et application préliminaire à la détection de deepfakes**, Y. Li, M. Gardella, Q. Bammey, T. Nikoukhah, R. Grompone von Gioi, M. Colom, J.-M. Morel. *Groupe de Recherche en Traitement du Signal et des Images (GRETSI)*, 2023.
- **Forensic Similarity for Source Camera Model Comparison**, M. Gardella, P. Musé. *Image Processing On Line (IPOL)*, 2022. [Best student paper award –MLBriefs 2022.](#)
- **Image Forgery Detection via Forensic Similarity Graphs**, M. Gardella, P. Musé. *Image Processing On Line (IPOL)*, 2022. [Best student paper award – MLBriefs 2022.](#)
- **Video Signal-Dependent Noise Estimation via Inter-Frame Prediction**, Y. Li, M. Gardella, Q. Bammey, T. Nikoukhah, R. Grompone von Gioi, M. Colom, J.-M. Morel. *IEEE International Conference on Image Processing (ICIP)*, 2022.
- **The approach to reproducible research of the Image Processing On Line (IPOL) journal**, A. Nicolai, Q. Bammey, M. Gardella, T. Nikoukhah, O. Boulant, I. Bargiotas, N. Monzón, C. Truong, B. Kerautret, P. Monasse, M. Colom. *Informatio*, 2022.
- **The Impact of JPEG Compression on Prior Image Noise**, M. Gardella, T. Nikoukhah, Y. Li, Q. Bammey. *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2022.
- **Non-Semantic Evaluation of Image Forensics Tools: Methodology and Database**, Q. Bammey, T. Nikoukhah, M. Gardella, R. Grompone von Gioi, M. Colom, J.-M. Morel. *IEEE/CVF Winter Conference on Applications of Computer Vision*, 2022.

- **Forgery Detection in Digital Images by Multi-Scale Noise Estimation**, M. Gardella, P. Musé, J.-M Morel, M. Colom. *Journal of Imaging*, 2021.
- **NoiseSniffer: a Fully Automatic Image Forgery Detector Based on Noise Analysis**, M. Gardella, P. Musé, J.-M Morel, M. Colom. *9th IEEE International Workshop on Biometrics and Forensics (IWBF)*, 2021. [Best paper award – IWBF 2021.](#)

BOOK CHAPTER

- **How to Reconstruct the History of a Digital Image, and of Its Alterations, Multimedia Security 1: Authentication and Data Hiding**, Q. Bammey, M. Colom, M. Gardella, R. Grompone von Gioi, J.-M. Morel, T. Nikoukhah and D. Perraud. Directed by William Puech. *John Wiley & Sons, Inc.*, 2022.
- **Comment reconstruire l’histoire d’une image digitale, et de ses altérations, Sécurité Multimédia vol. 1**, Q. Bammey, M. Colom, M. Gardella, R. Grompone von Gioi, J.-M. Morel, T. Nikoukhah and D. Perraud. Directed by William Puech. *ISTE*, 2021.

TALKS AND WORKSHOPS

- M. Gardella (2023). Detección de imágenes falsificadas. WIDS, Guayaquil 2023. June, 2023.
- M. Gardella (2023). The devil wears Prada and the Pope Balenciaga A pitch on how to spot fake images. VivaTech, Paris 2023. June, 2023.
- M. Gardella (2023). Noisesniffer: image forgery detection through noise analysis (Poster presentation). KHIPU, Montevideo 2023. March, 2023. [Top three best posters award.](#)
- M. Gardella (2022). Procesamiento de imágenes falsas Women in Data Science (WIDS) Montevideo 2022. April, 2022.
- M. Gardella, T. Nikoukhah, Q. Bammey (2021). Détection automatique de la falsification d’images. Congrès des Jeunes Chercheuses et Chercheurs en Mathématiques Appliquées (CJC-MA) 2021. October 27-29, 2021, École polytechnique, Palaiseau, France.
- M. Gardella et al. (2021). Enhanced Image Forensic Tools for Fact-Checkers. Conference for Truth and Trust Online (TTO) 2021. October 7 and 8, 2021. Online.
- M. Gardella (2017). Estimation of the Inflationary feedback coefficient in Uruguay 1985-2017. IV Conference in applied statistics. October 2017. La Paloma, Uruguay.