

CURRICULUM VITAE CESAR F. CAIAFA

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POSICIONES ACTUALES

Nov. 2010 ~	CONICET <i>Investigador Independiente en IAR-CONICET</i>	Buenos Aires, ARGENTINA
Ago. 2018 ~	Facultad de Ingeniería, Universidad de Buenos Aires (FIUBA) <i>Profesor Adjunto Regular (dedicación simple)</i>	Buenos Aires, ARGENTINA
Ago. 2024 ~	Facultad de Ciencias Exactas y Naturales (FCEN-UBA) <i>Profesor materia de Maestría: Aprendizaje Reforzado</i>	Buenos Aires, ARGENTINA
Ago. 2018 ~	RIKEN Artificial Intelligence Project <i>Científico Visitante del Tensor Learning Team</i>	Tokyo, JAPÓN

POSICIONES ANTERIORES

2026 – 2026	Nagoya Institute of Technology <i>Profesor Invitado</i>	Nagoya, JAPÓN
2025 – 2025	École Normale Supérieure <i>Profesor Invitado</i>	Lyon, FRANCIA
2022 – 2023	RIKEN Artificial Intelligence Project <i>Investigador Visitante (beca JSPS)</i>	Tokio, JAPÓN
2016 – 2018	Indiana University <i>Investigador Posdoctoral</i>	Bloomington, IN, EEUU
2010 – 2017	RIKEN Brain Science Institute <i>Científico Visitante</i>	Saitama, JAPÓN
2008 – 2010	RIKEN Brain Science Institute <i>Investigador Posdoctoral</i>	Saitama, JAPÓN
2004 – 2007	Facultad de Ingeniería, Universidad de Buenos Aires (FIUBA) <i>Becario Doctoral (Beca UBA Peruilh)</i>	Buenos Aires, ARGENTINA
2004 – 2018	Facultad de Ingeniería, Universidad de Buenos Aires (FIUBA) <i>Jefe de Trabajos Prácticos / Ayudante de Primera</i>	Buenos Aires, ARGENTINA
2005 – 2005	CNR (Consiglio Nazionale delle Ricerche) <i>Becario Doctoral (Beca CONAE-ASI)</i>	Pisa, ITALIA
2000 – 2002	Lucent Technologies <i>Ingeniero de Sistemas, Productos de Fibra Óptica</i>	Buenos Aires, ARGENTINA
1996 – 2000	TELECOM <i>Ingeniero de Proyectos</i>	Buenos Aires, ARGENTINA
1991 – 1995	Facultad de Ingeniería, Universidad de Buenos Aires (FIUBA) <i>Ayudante de Segunda</i>	Buenos Aires, ARGENTINA

DOCENCIA

2024 ~	Profesor materia de Maestría, FCEN-UBA (cátedra: Aprendizaje Reforzado)
2018 ~	Profesor Adjunto Regular, Depto. Computación, FIUBA (cátedra: Simulación).
2009 – 2018	Jefe de Trabajos Prácticos, Depto. Computación, FIUBA (cátedra: Análisis Numérico).
2008 – 2009	Ayudante de primera ad-honorem, Depto. Electrónica, FIUBA (cátedra: Señales y Sistemas de Comunicaciones Digitales).
2005 – 2008	Ayudante de primera regular, Depto. Computación, FIUBA (cátedra: Teoría de la Comunicación)
2004 – 2005	Ayudante de primera, Depto. Matemática, FIUBA (cátedra: Probabilidad y Estadística).
1991 – 1995	Dos cargos de ayudante de segunda, Depto. Matemática, FIUBA (cátedra: Análisis III).
1995	Ayudante Ad-honorem, Depto. Electrónica, FIUBA (cátedra: "Procesamiento de Imágenes).

FORMACIÓN ACADÉMICA

2004 - 2007	Facultad de Ingeniería, Universidad de Buenos Aires Doctorado de la UBA, área Ingeniería (Diciembre 2007) Tesis: "Modelos Matemáticos y Nuevos Algoritmos para Procesamiento de Imágenes" (Directora: Dr. Araceli Proto)	Buenos Aires, ARGENTINA
1990 - 1996	Facultad de Ingeniería, Universidad de Buenos Aires Ingeniería Electrónica (Mayo 1996) Tesis: "Procesos Aleatorios Bidimensionales. Su Aplicación a Procesamiento de Imágenes" (Director: Dr. Bruno Cernuschi)	Buenos Aires, ARGENTINA

EXPERIENCIA PROFESIONAL EN LA INDUSTRIA

Julio 2000 – Nov. 2002: Lucent Technologies, Buenos Aires – ARGENTINA. Ingeniero de Sistemas Ópticos para la Región CALA (*CARibe and Latin America*).

Enero 1996 - Julio 2000: TELINTAR / Telecom Internacional - STET- France Telecom, Buenos Aires – ARGENTINA. Ingeniero de proyecto en Sistemas satelitales y de fibra óptica.

1995: Empresa Atlántica de Tecnología (E.A.T) – Argentina. Programador C++

FORMACIÓN DE RECURSOS HUMANOS

Investigadores

2018 – 2023: Codirector de Investigadora Asistente CONICET, Laura Suad, Título de tema de investigación: "Estudio multifrecuencia de estructuras presentes en el medio interestelar y su rol en la estructura y dinámica de la Vía Láctea".

Posdoctorado

2021: Codirector Beca Posdoctoral CONICET del **Dr. Fulvio Farina**. Título: "Imágenes por microondas: algoritmos de reconstrucción y validación experimental".

2016 – 2018: Codirector Beca Posdoctoral CONICET del **Dr. Augusto Maya**. Título: "Problemas de Inferencia Estadística para Conjuntos Masivos de Datos".

Doctorado

2021 – 2024 (calificación: sobresaliente *cum laude*): Codirector Tesis doctoral del **Ing. Hao Jia**. Título: "Expanding the Potential of Non-Invasive Brain-Computer Interfaces: Advancements in Upper Limb Movement Classification and Data Augmentation Strategies", Universidad de Vic, Vic, España.

2021 – (en curso): Codirector de beca doctoral CONICET, de la **Lic. Paula Soria**. Título tema de investigación: "Análisis, modelado y extracción de marcadores no invasivos de la actividad eléctrica cardíaca fetal". FIUBA.

2022 – (en curso): Codirector Tesis doctoral de **Lic. Siqi Sun**. Título: "Multi model cognitive signal processing for natural language processing", Universidad de Vic, Vic, España.

2021 – 2026: Codirector Tesis doctoral de **Ing. Shuning Han**. Título: "Human Brain Network Analysis with Magnetic Resonance Imaging of Different Intellectual Levels", Universidad de Vic, Vic, España.

2016 – (en curso): Codirector Tesis doctoral, de la **Lic. Romina Astrid Rebrij**. Título: "Aprendizaje automático aplicado al análisis de datos genómicos y al cuidado de la salud". FIUBA.

Grado (Tesis)

2024 – (en curso): director de Tesis de Grado de Ingeniería Informática de **Tito Ignacio Lasanta Viñes**. Título:

“Modelo Transformer con atención dividida y capas recurrentes aplicado a la predicción del fenómeno El Niño”. FIUBA.

2021 (calificación:10 sobresaliente): director de Tesis de Grado de Ingeniería Informática de **Andrés Otero**. Título: “Descomposiciones Tensoriales Aplicadas a Arquitecturas de *Deep Learning*”. FIUBA

2014 (calificación:10 sobresaliente): director Tesis de Grado, Ingeniería Informática, de **Marcelo Gore**. Título: “Modelo computacional de tránsito vehicular basado en el comportamiento de bandadas”. FIUBA.

Grado (Trabajo Profesional)

2021 (calificación:10 sobresaliente): director de Trabajo Profesional de Ingeniería Informática de **Estanislao Ledesma**. Título: “Software de tomografía por microondas”. FIUBA.

2020 (calificación:10 sobresaliente): director de Trabajo Profesional de Ingeniería Informática, de **Federico Brasburg**. Título: “Aplicación reconocedora de portadas de vinilos”. FIUBA.

2024 – 2025 (calificación:10 sobresaliente): Director de Trabajo Profesional de Ingeniería Informática, de **Ana Gabriela Gutson, Pedro Grin, Francisco Duca y Tomas Jorge Shiao**. Título: “*Personalización del Tratamiento de la Diabetes Tipo 1 mediante IA / Machine Learning*”. FIUBA.

2024 – 2025 (calificación:10 sobresaliente): director de Trabajo Profesional de Ingeniería Informática, de **Nicolas Hazan, Agustín Tardá y Rocío Tardá**. Título: “*Tesaurus Astronómico: Predicción de términos claves y recomendación de documentos científicos*”. FIUBA.

PROYECTOS CIENTÍFICOS (documentación probatoria en SIGEVA)

2025 – 2027: Investigador de proyecto PIDAE (UBA – Argentina): “Microscopía portátil para la detección de Dengue grave”, Buenos Aires, Argentina.

2024 – 2025: Codirector de proyecto AAP CNRS IEA 2023 (Francia – Argentina): “Unfolded networks for Microwave Tomography Imaging (UMTI)”, Lyon, Francia.

2022 – 2024: Director de proyecto PIP CONICET “Soluciones a problemas inversos en ingeniería biomédica basados en representaciones *sparse* e inteligencia artificial”, Argentina.

2022 – 2024: Codirector de proyecto PICT: “Tomografía de microondas: algoritmos de reconstrucción, validación experimental y aplicaciones.”, Agencia de Promoción Científica, Argentina.

2018 – 2020: Codirector de proyecto UBACyT “Modulación dopamina-dependiente del código neuronal en áreas corticales”, Secretaría de Ciencia y Técnica, Argentina.

2012 – 2014: Director of PIP CONICET “Representaciones Sparse y la Teoría del Sensado Comprimido aplicado al procesamiento de señales multidimensionales”, Argentina.

2022 – 2024: Investigador, “Disseny i anàlisi de l'eficàcia d'una intervenció breu basada en una aplicació mòbil per l'autolesió: mesures d'autoinforme, momentànies i biològiques com a predictors del tractament”, Fundación La Marató-3, Cataluña, España.

2021 – 2024: Investigador, MICINN PID2020-120314RB-I00 “*Procesamiento Avanzado de Señales para la Prognosis de Fallos en Aerogeneradores*”, España.

2020 – 2023: Investigador, UBACyT 20020190-200305BA “*Estudio y Análisis de la Tecnología Blockchain usando herramientas y métodos matemáticos*”, Argentina.

2020 – 2022: Investigador, PICT-2017-3208: “*Modulación dopaminérgica de la información cortical en el aprendizaje de reglas simples y complejas*”, Agencia de Promoción Científica, Argentina.

2013 – 2015: Investigador, PICT2012: “Dinámica e interacción de circuitos neuronales involucrados en el aprendizaje de reglas: aplicación a máquinas inteligentes”, Argentina

2012 – 2015: Investigador, 11/G113: “Supercáscaras de HI en la Parte Externa de la Vía Láctea y su Importancia en la Formación Estelar”, Universidad Nacional de La Plata, Argentina.

2011 – 2014: Investigador, UBACyT 20020100- 100902 “Codificación de la memoria de trabajo en la corteza visuales y somatosensoriales”, Argentina

2009 – 2010: Investigador, AR2009-0010: “Desarrollo de Herramientas de Procesado de Señales para el Análisis de Datos Bioinformáticos”. Argentina – España.

2008 – 2010: Investigador, UBACyT I027 (2008) “Teorías computacionales para explicar cooperación entre individuos con capacidad de aprender condicionamiento operante y clases de equivalencia”, Argentina.

2008 – 2010: Investigador, UBACyT I012 (2008) “Aplicaciones de Explotación de Información Basada en Sistemas Inteligentes”, Argentina.

Sept – Dic 2005: Becario, *Satellite System for Emergency Management (SIASGE) Program*. CONAE (Argentina) y Agenzia Spaziale Italiana (ASI) (Italia).

2005: CNR ICT.P03.009.006: "Industrial and medical diagnosis, management of cultural heritage, and management of states of emergency". Signal & Images Laboratory of ISTI"- CNR, Pisa, Italia.

2003 – 2007: becario doctoral, PICT 2003 (02-13533) y UBACyT Proyecto 2003-2007 I050 (2004) "Explotación de Información basada en sistemas inteligentes", Argentina.

2003 – 2004: becario doctoral, PICTO 2002 CENPAT-CONAE. "Desarrollo de un Sistema de Información Geográfica y de Toma Automática de información para el estudio del Impacto del Cambio y la Variabilidad Climática en la Zona Oeste de la Península Antártica", Argentina.

ORGANIZACIÓN DE WORKSHOPS INTERNACIONALES

2024: Co-organización del Workshop "TMME: Tensor Models for Machine Learning" IEEE CAI 2024, Singapur.

2020: Co-organización del NeurIPS 2020 *First Workshop on Quantum Tensor Networks in Machine Learning*, Canadá.

2020: Co-organización del IJCAI 2020 *Workshop on Tensor Networks Representations in Machine Learning*, Japón.

2013 y 2015: Miembro del *Program Committee* del IEEE *International Workshop on Machine Learning for Signal Processing*.

2012: Miembro del *Program Committee* del Workshop BIOSIGNALS 2012, Portugal.

2012: Miembro del *Technical Committee* de la Conferencia LVA/ICA 2012, Israel.

2009: Miembro del *Technical Committee* de la Conferencia ICONIP 2009, Tailandia.

ACTIVIDADES DE EVALUACIÓN

Comité Editorial: Associate Editor-in-Chief in *Signals* (ISSN 2624-6120) – 2018 - 2022.

Revistas: Machine Learning, IEEE Transactions on Cybernetics, MIT Neural Computation, IEEE Transactions on Signal Processing; IEEE Transaction on Image Processing; EURASIP Journal on Advances in Signal Processing, Signal Processing Journal, Elsevier; Digital Signal Processing Journal, Elsevier; SIAM Journal on Matrix Analysis and Applications (SIMAX); Neurocomputing.

Agencias Tecnológicas: Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Argentina, FONCYT (Argentina), Eurostar Programme – EUREKA and INNOWIDE, EUROPEAN RESEARCH COUNCIL, MITACS (Canadá), EUROPEAN SCIENCE FOUNDATION.

Conferencias: AISTATS 2022, AAAI 2020 – 2022, ACML 2020 – 2021, NeurIPS 2019 – 2026, NIPS 2018, IJCAI 2020 – 2023, ICLR 2019 – 2025, AAAI 2020 – 2022, ICLM 2019 - 2026, SSP 2018, ICASSP 2006 – 2013 – 2014 – 2015 – 2016, MSLP 2013 – 2015 (Workshop PC member), LVA/ICA 2012 (Technical Committee Member), ICONIP 2009, EUSIPCO 2006 – 2011, Biosignals 2012 (TC member), NOLISP 2011, NOLTA 2009, RPIC 2007, KES 2007, IGARSS 2007.

BECAS Y PREMIOS

2024	1er puesto trabajo extendido en congreso Argentino de Física Médica	Bariloche, ARGENTINA
2024	Best Paper at the BIOSIGNALS/BIOSTEC conference	Roma, ITALIA
2022	JSPS Invitational Fellowship to visit Riken AIP	Tokio, JAPÓN
2020	JSPS Invitational Fellowship to visit Riken AIP	Tokio, JAPÓN
2019	JSPS Invitational Fellowship to visit Riken AIP	Tokio, JAPÓN
2019	Best 2018 paper at IEEE Signal Processing Magazine	Brighton, UK
2017	Fulbright – CONICET Fellowship	Bloomington, IN, EEUU
2014	SPS Travel Grant for the International Conference for Acoustic and Speech Signal Processing.	Florence, ITALIA
2012	ICTP (International Centre of Theoretical Physics) Fellowship for the School on "Large Scale Problems in Machine Learning".	Trieste, ITALIA
2007	ICTP Fellowship for the Workshop "Common Concepts in Statistical Physics and Computer Science".	Trieste, ITALIA
2006	Jaynes Foundation for the MAXENT06 Conference	Paris, FRANCIA
2006	ICIAM/ICTP Fellowship for the ICAM06 Conference.	Santiago de Chile, CHILE
2004 – 2007	Peruilh Fellowship (doctorate), University of Buenos Aires.	Buenos Aires, ARGENTINA
2005	ASI-CONAE Fellowship.	Pisa, ITALIA

IDIOMAS

Inglés: TOEFL ITP score = 617/677; Italiano: intermedio; Japonés: básico

PUBLICACIONES

Artículos en revistas indexadas

- [1] "Density-based Adaptive Mode Decomposition", H Jia, Ch Yang, **CF Caiafa**, Z Sun, F Duan, J Solé-Casals, *IEEE Transactions on Signal Processing*, [10.1109/TSP.2026.3675233](https://doi.org/10.1109/TSP.2026.3675233)
- [2] "On the Robustness of EMG Tensor Completion under Various Missing Patterns", T Liang, J Hao, C Li, **CF Caiafa**, R Himeno, Y Kushihashi, J Solé-Casals, Z Sun. *Biomedical Signal Processing and Control* 120 (July 2026): 110028. [10.1016/j.bspc.2026.110028](https://doi.org/10.1016/j.bspc.2026.110028).
- [3] "A robust denoising diffusion framework for completing missing regions of multiple biomedical signals", S Wang, H Tang, R Himeno, J Solé-Casals, **CF Caiafa**, S Aoki, Z Sun, *Biomedical Signal Processing and Control*, 113 (B), 2026. Doi: [10.1016/j.bspc.2025.108788](https://doi.org/10.1016/j.bspc.2025.108788).
- [4] "Revealing Structural Brain-Cognition Relationships in Children: A Comparison of Morphometric Similarity and INverse Divergence Networks", S Han, H Jia, G Vilaseca, N Vilaró, F Duan, Z Sun, **CF Caiafa**, Jordi Solé-Casals, *Neuroinformatics*, 24(4), 2026. Doi: [10.1007/s12021-025-09764-z](https://doi.org/10.1007/s12021-025-09764-z)
- [5] "Enhanced Scene-Specific Saliency Prediction Incorporating Scene Information", S Han, Z Sun, T Michikawa, **CF Caiafa**, J Solé-Casals, H Yokota, *Cognitive Computation*, 17 (155), 2025. [10.1007/s12559-025-10506-1](https://doi.org/10.1007/s12559-025-10506-1)
- [6] "Short-time variational mode decomposition", H Jia, P Cao, T Liang, **CF Caiafa**, Z Sun, Y Kushihashi, A Grau, Y Bolea, F Duan, J Solé-Casals, *Signal Processing*, 238, 2025. [10.1016/j.sigpro.2025.110203](https://doi.org/10.1016/j.sigpro.2025.110203).
- [7] "HSBNN: A High-Scalable Bayesian Neural Networks Accelerator Based on Field Programmable Gate Arrays (FPGA)", Y Liu, H Zhang, Z Sun, F Duan, Y Ma, W Lu, **CF Caiafa**, J Solé-Casals, *Cognitive Computation* 17(3), 2025. [10.1007/s12559-025-10455-9](https://doi.org/10.1007/s12559-025-10455-9).
- [8] "An Approach to Compute Fetal Cardiac Biomarkers from the Abdominal Electrocardiogram" PR Soria, PD Cruces, **CF Caiafa**, PD Arini, *IRBM* 46(3), 2025. [10.1016/j.irbm.2025.100886](https://doi.org/10.1016/j.irbm.2025.100886).
- [9] "Information Theory Quantifiers in Cryptocurrency Time Series Analysis", M Suriano, LF Caram, **CF Caiafa**, HD Merlino, OA Rosso, *Entropy* 27(4), 2025. [10.3390/e27040450](https://doi.org/10.3390/e27040450).
- [10] "ECGDenoiser: A Magnitude-Aware Deep Learning Framework with Phase Retrieval for Electrocardiogram Signal Enhancement", S Wang, H Tang, R Himeno, J Solé-Casals, **CF Caiafa**, S Aoki, Z Sun, *Circuits, Systems, and Signal Processing*, 2025. [10.1007/s00034-025-03142-5](https://doi.org/10.1007/s00034-025-03142-5).
- [11] "Robust low tubal rank tensor recovery using discrete empirical interpolation method with optimized slice/feature selection", S Ahmadi-Asl, A-H Phan, **CF Caiafa**, A Cichocki, *Advances in Computational Mathematics*, 50(23), 2024. Doi: [10.1007/s10444-024-10117-8](https://doi.org/10.1007/s10444-024-10117-8).
- [12] "Optimizing graph neural network architectures for schizophrenia spectrum disorder prediction using evolutionary algorithms", *Computer Methods and Programs in Biomedicine*, S Wang, H Tang, R Himeno, J Solé-Casals, **CF Caiafa**, S Han, S Aoki, Z Sun, 257, 2024. Doi: [10.1016/j.cmpb.2024.108419](https://doi.org/10.1016/j.cmpb.2024.108419).
- [13] "Exploring Tensor Completion for Missing Data Estimation in Wind Farms", H Jia, P Marti-Puig, **CF Caiafa**, M Serra-Serra, Z Sun, J Solé-Casals, *IEEE Sensors Letters*, 2024. Doi: [10.1109/LESENS.2024.3488560](https://doi.org/10.1109/LESENS.2024.3488560).
- [14] "Enabling temporal-spectral decoding in multi-class single-side upper limb classification", H Jia, S. Han, **CF Caiafa**, F Duan, Y Zhang, Z Sun, J Solé-Casals, *Engineering Applications of Artificial Intelligence*, 133(E), 2024. Doi: [10.1016/j.engappai.2024.108473](https://doi.org/10.1016/j.engappai.2024.108473)
- [15] "Robust low tubal rank tensor recovery using discrete empirical interpolation method with optimized slice/feature selection", S Ahmadi-Asl, AH Phan, **CF Caiafa**, A Cichocki, *Adv Comput Math* 50, 23 (2024). Doi: [10.1007/s10444-024-10117-8](https://doi.org/10.1007/s10444-024-10117-8).
- [16] "Early prediction of dementia using fMRI data with a graph convolutional network approach", S Han, Z Sun, K Zhao, F Duan, **CF Caiafa**, Y Zhang, J Solé-Casals, *Journal of Neural Engineering* (2024), doi: [10.1088/1741-2552/ad1e22](https://doi.org/10.1088/1741-2552/ad1e22).
- [17] "Assessing the Potential of Data Augmentation in EEG Functional Connectivity for Early Detection of Alzheimer's Disease", H Jia, Z Huang, **CF Caiafa**, F Duan, Y Zhang, Z Sun, J Solé-Casals, *Cognitive Computation*, 16, 229–242 (2024). Doi: [10.1007/s12559-023-10188-7](https://doi.org/10.1007/s12559-023-10188-7)
- [18] "Towards improving motor imagery brain-computer interface using multimodal speech imagery", J Tong, Z Xing, X Wei, S Du, Z Sun, J Solé-Casals, **CF Caiafa**, *Journal of Medical and Biological Engineering*, 43, pages 216–226 (2023), doi: [10.1007/s40846-023-00798-9](https://doi.org/10.1007/s40846-023-00798-9).
- [19] Brain Simulation and Spiking Neural Networks. Z Sun, V Cutsuridis, **CF Caiafa**, J Solé-Casals. *Cognitive Computation* 15, 1103–1105 (2023). [10.1007/s12559-023-10156-1](https://doi.org/10.1007/s12559-023-10156-1)

- [20] "Exploratory Analysis of SCADA Data from Wind Turbines Using the K-Means Clustering Algorithm for Predictive Maintenance Purposes", P Cosa Rodriguez, P Marti-Puig, **CF Caiafa**, M Serra-Serra, J Cusidó, J Solé-Casals, *Machine*, 11(2), 2023, doi: [10.3390/machines11020270](https://doi.org/10.3390/machines11020270)
- [21] "Underwater sEMG-based recognition of hand gestures using tensor decomposition", J Xue, Z Sun, F Duan, **CF Caiafa**, J Solé-Casals, *Pattern Recognition Letters*, 165, 2023, doi: [10.1016/j.patrec.2022.11.021](https://doi.org/10.1016/j.patrec.2022.11.021).
- [22] "Multi-class Classification of Upper Limb Movements with Filter Bank Task-related Component Analysis", H. Jia, F Feng, **CF Caiafa**, F Duan, Y Zhang, Z Sun, J Solé-Casals, *IEEE Journal of Biomedical and Health Informatics*, doi: [10.1109/JBHI.2023.3278747](https://doi.org/10.1109/JBHI.2023.3278747).
- [23] Z Zhang, F Duan, **CF Caiafa**, J Solé-Casals, Z Yang, Z Sun. Domain classifier-based transfer learning for visual attention prediction. *World Wide Web*, 25, 2022. doi: [10.1007/s11280-022-01027-0](https://doi.org/10.1007/s11280-022-01027-0)
- [24] "Graph Empirical Mode Decomposition-Based Data Augmentation Applied to Gifted Children MRI Analysis", C Xuning, L Binghua, J Hao, F Fan, F Duan, S Zhe, **CF Caiafa**, J Solé-Casals, *Frontiers in Neuroscience*, 16, 2022. doi: [10.3389/fnins.2022.866735](https://doi.org/10.3389/fnins.2022.866735)
- [25] "A Brain-Controlled Vehicle System Based on Steady State Visual Evoked Potentials", Z Zhang, S Han, H Yi, F Duan, F Kang, Z Sun J Solé-Casals, **CF Caiafa**, *Cogn Comput* 15, 2023. doi: [10.1007/s12559-022-10051-1](https://doi.org/10.1007/s12559-022-10051-1)
- [26] "A fast algorithm for spatiotemporal signals recovery using arbitrary dictionaries with application to electrocardiographic imaging", SF Caracciolo, **CF Caiafa**, FD Martínez Pería, PD Arini, *Biomedical Physics & Engineering Express*, 8 (6), 2022. doi: [10.1088/2057-1976/ac835b](https://doi.org/10.1088/2057-1976/ac835b)
- [27] "Detection of Wind Turbine Failures through Cross-Information between Neighbouring Turbines", P Marti-Puig, J Cusidó, FJ Lozano, M Serra-Serra, **CF Caiafa**, J Solé-Casals, *Applied Sciences*, 12 (19) 2022. doi: [10.3390/app12199491](https://doi.org/10.3390/app12199491)
- [28] "Improving pre-movement pattern detection with filter bank selection", H Jia, Z Sun, F Duan, Y Zhang, **CF Caiafa**, J Solé-Casals, *Journal of Neural Engineering*, 19 (6), 2022. doi: [10.1088/1741-2552/ac9e75](https://doi.org/10.1088/1741-2552/ac9e75).
- [29] "Cerebral cortex layer segmentation using diffusion magnetic resonance imaging in vivo with applications to laminar connections and working memory analysis", J Zhang. Z Sun, F Duan, L Shi, Y Zhang, J Solé-Casals, **CF Caiafa**, *Human Brain Mapping*, 43(17), 2022. doi: [10.1002/hbm.25998](https://doi.org/10.1002/hbm.25998)
- [30] "Tensor completion algorithms for estimating missing values in multi-channel audio signals", W Ding, Z Sun, X Wu, Z Yang, J Solé-Casals, **CF Caiafa**, *Computers & Electrical Engineering*, 97, 2022, doi: [10.1016/j.compeleceng.2021.107561](https://doi.org/10.1016/j.compeleceng.2021.107561).
- [31] "Machine Learning Methods with Noisy, Incomplete or Small Datasets", **CF Caiafa**, Z Sun, T Tanaka, P Marti-Puig, J Solé-Casals. 2021. *Applied Sciences* 11, 9, 2021 doi: [10.3390/app11094132](https://doi.org/10.3390/app11094132).
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