

ALEKSANDAR MILADINOVIC

Formazione

- Nov.2017– **Dottorato in ingegneria industriale e dell'informazione (con lode)**, SSD: *Bioingegneria elettronica e informatica (ING-INF/06)*, Università degli studi di Trieste, Trieste, Italia
Apr.2021 Tesi: Advanced MI-BCI procedures for neurorehabilitation of PD's and post-stroke patients
- Oct.2015– **Laurea magistrale in Scienze Cognitive (con lode)**, *Università di Vienna*, Vienna,
Oct.2017 Voto: 1.15/4.00 (1.00 max; 4.00 min)
Equipollenza riconosciuta per il titolo di Dottore magistrale in Scienze Cognitive (classe LM-55) presso l'Università degli Studi di Trento con DR 415 il 02/05/2022
- Oct.2008– **Laurea in Informatica (con lode)**, Univerzitet Union, Belgrado, Serbia, Voto: 9.48/10.00
Jul.2012 (10.00 max; 6.00 min)

Esperienza lavorativa

- Jan.2021 - **Borsista Senior - Post.Doc**, *SC Oculistica, IRCCS Burlo Garofolo*, Trieste, Italia, Progetto
present di ricerca principale: A diagnostic case-control study to develop an objective test based on ocular following responses (OFRs) measurement to assess stereoacuity in infants and children
- May.2021 - **Collaboratore di ricerca a titolo gratuito**, *Gruppo BioingTS, Dipartimento di Ingegneria e Architettura, Università degli studi di Trieste*, Trieste, Italia
present
- Nov.2017 - **Beneficiario della borsa di dottorato finanziata dalla regione Friuli-Venezia Giulia e dal Fondo Sociale Europeo**, *Gruppo BioingTS, Dipartimento di Ingegneria e Architettura, Università degli studi di Trieste*, Trieste, Italia, <http://bioingts.units.it/miladinovic>
Dec.2020
- Nov. 2014– **Assistente di ricerca e didattica universitaria - Prae.Doc.**, (*contratto a tempo determinato*) *Simulation of Mental Apparatus (SiMA), Institute for Computer Technology, Vienna University of Technology*, Vienna, Austria, <https://energyit.ict.tuwien.ac.at/team-en/alumni/>
Nov.2017
Ricerca: Intelligenza Artificiale Generale, sviluppo di modelli funzionali dell'architettura cognitiva umana utilizzando un approccio progettuale top-down (vedi progetti CogMAS e KORE)
Insegnamenti: 384.139 Selected Topics - Computer Systems (campo dell'Intelligenza Artificiale)
- May 2013– **Assistente di ricerca - Prae.Doc.**, (*contratto a tempo determinato, 30h/settimanali*)
Dec.2013 *Facoltà di Informatica, Università di Vienna*, Vienna
Elaborazione video e rilevamento automatico di sequenze video speciali utilizzando approcci di Machine Learning (vedi progetto FAMOUS)
- Feb 2012– **Associato alla raccolta di dati OCR**, (*contratto a tempo determinato, part-time*)
Apr.2012 *20h/settimanali*) *Microsoft Development Center Serbia (MDCS), Optical Recognition Team (OCR)*, Belgrado, Serbia
Responsabile della realizzazione dei test set e della valutazione delle collezioni OCR.

- Oct 2011- **Assistente universitario alla didattica**, (*contratto a tempo determinato, 10h/settimanali*)
Oct.2012 *Facoltà di Ingegneria Informatica (RAF)*, Belgrado, Serbia
Contribuito all'erogazione di insegnamenti e tutorial per i corsi "Coding and Information Theory" e "Data Compression".

Collaborazione esterna

- TWIN- **TWINning the BRAIN with machine learning for neuro-muscular efficiency**, (*HORIZON 2020. WIDESPREAD-05-2020 – Twinning*), *Science and Research Centre, Koper, Slovenia*, TwinBrain.si
- CASSIA **Cloud Assisted for Health and Safety**, (*POR FESR 2014-2020 FVG*), *BioingTS, University of Trieste*, BioingTS.units.it/CASSIA
- ECRES **Exercise Carbohydrate Requirement Estimating Software**, *BioingTS, University of Trieste / University of Udine*, BioingTS.units.it/ECRES
- MEMORI-net **Mental and Motor Rehabilitation Network of stroke**, *Cross-border Italia-Slovenia project*, MEMORInet.eu

Progetti di ricerca

- FAMOUS **Unusual sequences detection in very large video collections**, *Faculty for Computer Science, University of Vienna*, <https://mis.cs.univie.ac.at/research/projects/project/30>
- CogMAS **Cognitive Multi-Agent System Supporting Marketing Strategies of Environmental-Friendly Energy Products**, *Simulation of Mental Apparatus (SiMA) group, Vienna University of Technology*, <https://sima.ict.tuwien.ac.at/projects/cogmas/>
- KORE **Cognitive Optimization of Control Strategies for Increasing Energy-efficiency in Buildings**, *Simulation of Mental Apparatus (SiMA) group, Vienna University of Technology*, <https://sima.ict.tuwien.ac.at/projects/kore/>

Premi

Best work in the category of Development of technologies and devices for healthcare, *HeartBitAction - development of a decision support system for the early diagnosis of cardiac etiologies in the emergency period*, 3rd edition of the HT Challenge at 21st AIIC National Congress, Milano
November 2021

UniTS PhD Top Story, *Novel Brain-Computer Interface based procedures for motor neurorehabilitation in post-Stroke patients*, Awarded by University of Trieste, Trieste
October 2020

IFBME Best Paper Award, *Slow Cortical Potential BCI Classification Using Sparse Variational Bayesian Logistic Regression with Automatic Relevance Determination*, at Mediterranean Conference on Medical and Biological Engineering and Computing, Coimbra, Portugal
September 2019

Best work in the category of Development of innovative devices, *A Mobile App for Prevention of Exercise-induced hypoglycemia in Type 1 diabetic patients*, at 3rd International Congress of Clinical Engineering and Health Technology Management III ICEHTMC, Rome
October 2019

Membership

- GNB **Membro fondatore del Gruppo Nazionale Italiano di Bioingegneria**
IFMBE **Membro della Federazione internazionale di ingegneria medica e biologica**
KES **Membro di Knowledge-Based and Intelligent Information and Engineering Systems (Society: Innovation in Medicine and Healthcare)**
EURASIP **Membro di European Association for Signal Processing**

Attività editoriale

Special topic editor, *Brain-Connectivity-Based Computer Interfaces*, Frontiers in Human Neuroscience

Revisore per riviste scientifiche internazionali

Applied sciences, MDPI (*Multidisciplinary Digital Publishing Institute*) , Svizzera
Brain sciences, MDPI (*Multidisciplinary Digital Publishing Institute*) , Svizzera
Electronics, MDPI (*Multidisciplinary Digital Publishing Institute*) , Svizzera
Entropy, MDPI (*Multidisciplinary Digital Publishing Institute*) , Svizzera
Sensors, MDPI (*Multidisciplinary Digital Publishing Institute*) , Svizzera
Frontiers in Human Neuroscience, *Frontiers*, Svizzera

Partecipazion ai convegni

Computing in Cardiology Conference : CinC2022 , *presentazione poster*, 04/09/2022-10/09/2022, Tampere, Finlandia
XXII Convegno Nazionale AIIC, 12/06/2022-15/06/2022, Riccione, Italia
25th International Conference on Knowledge-Based and Intelligent Information and Engineering Systems, 08/09/2021-10/09/2021, *presentazione orale dell'articolo*, Pzccecin, Polonia
29th European Signal Processing Conference, 18/01/2021-22/01/2021, *presentazione orale dell'articolo*, Amsterdam, Olanda
Undicesima Edizione del ForItAAL, il Forum Italiano Ambient Assisted Living, 15/11/2020-18/11/2020, *presentazione poster*, Padova, Italia
42nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society via the EMBS Virtual Academy, 20/06/2020-24/06/2020, *presentazione orale dell'articolo*, Montreal, Canada
18th Nordic-Baltic Conference on Biomedical Engineering and Medical Physics, 18/09/2020-20/20/2020, *presentazione orale dell'articolo*, Reykjavík, Islanda
24th International Conference on Knowledge-Based and Intelligent Information and Engineering Systems, 19/09/2020-18/09/2020, *presentazione orale dell'articolo*, Verona, Italia
XV Mediterranean Conference on Medical and Biological, 26/09/2019 - 26/09/2019, *presentazione orale dell'articolo*, Coimbra, Portogallo
SIRN National Congress, 04/04/2018-07/04/2018, *poster presentation*, Trieste, Italia

Lingue

Produzione Scientifica

8 pubblicazioni su riviste internazionali Peer-Reviewed

18 pubblicazioni in atti di convegni internazionali

Campi di ricerca

Biomedical Signal Analysis and Machine Learning, Eye-movement analysis and visual system development, EEG spectral analysis, Brain Computer Interface, Heart Rate and Blood pressure analysis

H-index 8, Scopus

Elenco pubblicazioni

- [1] A. Miladinović, M. Ajčević, J. Jarmolowska, U. Marusic, M. Colussi, G. Silveri, P.P. Battaglini, and A. Accardo. Effect of power feature covariance shift on bci spatial-filtering techniques: A comparative study. *Computer Methods and Programs in Biomedicine*, 198, 2021.
- [2] A. Miladinović, M. Ajcevic, J. Jarmolowska, U. Marusic, G. Silveri, P.P. Battaglini, and A. Accardo. Performance of eeg motor-imagery based spatial filtering methods: A bci study on stroke patients. *Procedia Computer Science*, 176:2840–2848, 2020.
- [3] A. Miladinović, M. Ajčević, P. Busan, J. Jarmolowska, M. Deodato, S. Mezzarobba, P.P. Battaglini, and A. Accardo. Eeg changes and motor deficits in parkinson's disease patients: Correlation of motor scales and eeg power bands. *Procedia Computer Science*, 192:2616–2623, 2021.
- [4] A. Miladinović, M. Ajčević, G. Siveri, L. Liguori, L. Pascasio, and A. Accardo. Ambulatory blood pressure monitoring versus office blood pressure measurement: Are there sex differences? *Procedia Computer Science*, 192:2912–2918, 2021.
- [5] A. Miladinović, M. Ajcevic, P. Busan, J. Jarmolowska, G. Silveri, M. Deodato, S. Mezzarobba, P.P. Battaglini, and A. Accardo. Evaluation of motor imagery-based bci methods in neurorehabilitation of parkinson's disease patients. *Proceedings of the Annual International Conference of the IEEE Engineering in Medicine and Biology Society, EMBS*, 2020-July:3058–3061, 2020.
- [6] A. Miladinović, M. Ajcevic, P. Busan, J. Jarmolowska, G. Silveri, S. Mezzarobba, P.P. Battaglini, and A. Accardo. Transfer learning improves mi bci models classification accuracy in parkinson's disease patients. *European Signal Processing Conference*, 2021-January:1353–1356, 2021.
- [7] A. Miladinović, A. Barbaro, E. Valvason, M. Ajčević, A. Accardo, P.P. Battaglini, and J. Jarmolowska. Combined and singular effects of action observation and motor imagery paradigms on resting-state sensorimotor rhythms. *IFMBE Proceedings*, 76:1129–1137, 2020.
- [8] A. Miladinović, M. Ajčević, P.P. Battaglini, G. Silveri, G. Ciacchi, G. Morra, J. Jarmolowska, and A. Accardo. Slow cortical potential bci classification using sparse variational bayesian logistic regression with automatic relevance determination. *IFMBE Proceedings*, 76:1853–1860, 2020.

- [9] A. Accardo, L. Restivo, M. Ajčević, A. Miladinović, K. Iscra, G. Silveri, M. Merlo, and G. Sinagra. Toward a diagnostic cart model for ischemic heart disease and idiopathic dilated cardiomyopathy based on heart rate total variability. *Medical and Biological Engineering and Computing*, 60(9):2655–2663, 2022.
- [10] A. Dillen, E. Lathouwers, A. Miladinović, U. Marusic, F. Ghaffari, O. Romain, R. Meeusen, and K. De Pauw. A data-driven machine learning approach for brain-computer interfaces targeting lower limb neuroprosthetics. *Frontiers in Human Neuroscience*, 16, 2022.
- [11] M. Ajčević, A. Miladinović, G. Furlanis, A. Buoite Stella, M. Naccarato, P. Caruso, P. Manganotti, and A. Accardo. Wake-up stroke outcome prediction by interpretable decision tree model. *Studies in Health Technology and Informatics*, 294:569–570, 2022.
- [12] A. Accardo, G. Silveri, M. Ajčević, A. Miladinović, and L. Pascazio. Influence of smoking and other cardiovascular risk factors on heart rate circadian rhythm in normotensive and hypertensive subjects. *PLoS ONE*, 16(9 September), 2021.
- [13] M. Ajčević, G. Furlanis, A. Miladinović, A. Buoite Stella, P. Caruso, M. Ukmar, M.A. Cova, M. Naccarato, A. Accardo, and P. Manganotti. Early eeg alterations correlate with ctp hypoperfused volumes and neurological deficit: A wireless eeg study in hyper-acute ischemic stroke. *Annals of Biomedical Engineering*, 49(9):2150–2158, 2021.
- [14] G. Silveri, M. Merlo, L. Restivo, B. de Paola, A. Miladinović, M. Ajcevic, G. Sinagra, and A. Accardo. Identification of ischemic heart disease by using machine learning technique based on parameters measuring heart rate variability. *European Signal Processing Conference*, 2021-January:1309–1312, 2021.
- [15] M. Ajčević, A. Miladinović, G. Furlanis, M. Naccarato, A.B. Stella, P. Caruso, P. Manganotti, and A. Accardo. Ischemic lesion volume prediction in thrombolysis treated wake-up stroke patients. *Procedia Computer Science*, 192:2919–2925, 2021.
- [16] G. Silveri, L. Pascazio, M. Ajčević, A. Miladinović, and A. Accardo. Influence of the gender on the relationship between heart rate and blood pressure. *IFMBE Proceedings*, 80:689–697, 2021.
- [17] J. Jarmolowska, A. Miladinović, E. Valvason, P. Busan, M. Ajčević, P.P. Battaglini, and A. Accardo. Effects of mirror therapy on motor imagery elicited erd/s: An eeg study on healthy subjects. *IFMBE Proceedings*, 80:449–461, 2021.
- [18] M. Ajčević, G. Furlanis, M. Naccarato, A. Miladinović, A. Buoite Stella, P. Caruso, T. Cillotto, A. Accardo, and P. Manganotti. Hyper-acute eeg alterations predict functional and morphological outcomes in thrombolysis-treated ischemic stroke: a wireless eeg study. *Medical and Biological Engineering and Computing*, 59(1):121–129, 2021.
- [19] M. Simões, D. Borra, E. Santamaría-Vázquez, M. Bittencourt-Villalpando, D. Krzemiński, A. Miladinović, T. Schmid, H. Zhao, C. Amaral, B. Direito, J. Henriques, P. Carvalho, M. Castelo-Branco, L. de Arancibia, P. Sánchez-González, E.J. Gómez, M. Elena Hernando, I. Oropesa, B. Chatterjee, R. Palaniappan, and C.N. Gupta. Bciaut-p300: A multi-session and multi-subject benchmark dataset on autism for p300-based brain-computer-interfaces. *Frontiers in Neuroscience*, 14, 2020.
- [20] M. Ajcevic, G. Furlanis, A.B. Stella, T. Cillotto, P. Caruso, M. Ridolfi, C. Lugnan, A. Miladinović, M. Ukmar, M.A. Cova, A. Accardo, P. Manganotti, and M. Naccarato.

A ct perfusion based model predicts outcome in wake-up stroke patients treated with recombinant tissue plasminogen activator. *Physiological Measurement*, 41(7), 2020.

- [21] M. Ajcevic, G. Furlanis, A. Miladinović, M. Naccarato, G. Silveri, P. Caruso, A. Accardo, and P. Manganotti. Wireless eeg in hyper-acute ischemic stroke: Correlation between neurophysiological alterations and ctp total hypoperfused volume. *Procedia Computer Science*, 176:2923–2929, 2020.
- [22] M. Ajčević, A. Miladinović, G. Silveri, G. Furlanis, T. Cilotto, A.B. Stella, P. Caruso, M. Ukmar, M. Naccarato, A. Cuzzocrea, P. Manganotti, and A. Accardo. A big-data variational bayesian framework for supporting the prediction of functional outcomes in wake-up stroke patients. *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 12249 LNCS:992–1002, 2020.
- [23] S. Marino, G. Silveri, L. Bonanno, S. De Salvo, E. Cartella, A. Miladinović, M. Ajčević, and A. Accardo. Linear and non-linear analysis of eeg during sleep deprivation in subjects with and without epilepsy. *IFMBE Proceedings*, 76:125–132, 2020.
- [24] S. Schaaf, S. Wilker, A. Miladinović, S. Dicker, E. Geveze, and V. Gruber. Modelling emotion and social norms for consumer simulations exemplified in social media. *2015 International Conference on Affective Computing and Intelligent Interaction, ACII 2015*, pages 851–856, 2015.
- [25] S. Schaaf, A. Miladinović, S. Wilker, S. Kollmann, S. Dicker, E. Geveze, and V. Gruber. Emotion in consumer simulations for the development and testing of recommendations for marketing strategies. *ACM International Conference Proceeding Series*, 2015-September:25–32, 2015.