



## CURRICULUM VITAE

### Date personale:

**Nume, Prenume:** **Biró Attila**  
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### Domenii de interes:

Machine learning (învățare automată), bioinformatics (bioinformatica), sports health (sănătatea în sport), applied mathematics, and cybernetics for data-driven health and pharmaceutical sciences (matematica aplicată și cibernetica pentru științele medicale și farmaceutice bazate pe date).

### Activitate de cercetare:

#### 1. Proiecte de cercetare

- a. **Medication Digital Twin** (MDT) - proiect de cercetare științifică postdoctorală (în curs)
- b. **AI4TEST** - Self-healing supported testautomation with AI (în curs)
- c. **HORIZON 2020 iGAME RISE** - Multi-dimensional Intervention Support Architecture for Gamified eHealth and mHealth Products

#### 2. Lucrări publicate in extenso

**A. Biró**, L. Kovács, L. Szilágyi, “Bioinformatics-Inspired IMU Stride Sequence Modeling for Fatigue Detection Using Spectral–Entropy Features and Hybrid AI in Performance Sports”, *Sensors*, MDPI, vol. 26, no.2, 525, **2026**, DOI: [10.3390/s26020525](https://doi.org/10.3390/s26020525)

**A. Biró**, L.B. Iantovics, L. Fekete, and Gy.L. Fekete, “Prototype of a multimodal AI system for vitiligo detection and mental health monitoring”, *Frontiers in Medicine*, Sec. Dermatology, **2025**, volume 12, DOI: [10.3389/fmed.2025.1709891](https://doi.org/10.3389/fmed.2025.1709891)

**A. Biró**, A. I. Cuesta-Vargas, and L. Szilágyi, “Enhanced Spatial-Temporal Analysis for EEG-Based Microsleep Detection: Integrating Kalman Filtering with Voronoi Tessellation and Adaptive Coverage Control,” in 2024 IEEE International Conference on Systems, Man, and Cybernetics (SMC), Kuching, Sarawak, Malaysia: IEEE Xplore, **2025**, pp. 4855–4860, DOI: [10.1109/SMC54092.2024.10831505.ss](https://doi.org/10.1109/SMC54092.2024.10831505.ss)

**A. Biró**, A. Cuesta-Vargas, and L. Szilágyi, “AI-Assisted Fatigue and Stamina Control for Performance Sports on IMU-Generated Multivariate Times Series Datasets,” *Sensors*, MDPI, vol. 24, no. 1, p. 132, **2024**, DOI: [10.3390/s24010132](https://doi.org/10.3390/s24010132)

**A. Biró**, S. Szilágyi, L. Szilágyi, J. Martin-Martin, and A. Cuesta-Vargas, “Machine Learning on Prediction of Relative Physical Activity Intensity Using Medical Radar Sensor and 3D Accelerometer,” *Sensors*, MDPI, vol. 23, no. 3595, **2023**, DOI: [10.3390/s23073595Ss](https://doi.org/10.3390/s23073595Ss)