Amirehsan Davoodi

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Hiring Committee Huawei Zurich Research Center (Consumer BG)
Zurich, Switzerland

Subject: Application for Research Scientist – AI for Wearables

Dear Hiring Committee,

I am writing to apply for the Research Scientist – AI for Wearables position at Huawei in Zurich. I am a PhD candidate in Artificial Intelligence at Amirkabir University of Technology (AGML Center) with an MSc in AI from USI (Università della Svizzera italiana), Lugano. My research and industry experience sit at the intersection of machine learning, signal processing, and human–computer interaction, with a particular focus on wearable sensing, health analytics, and reliable on-device AI.

During my Masters at USI, my thesis explored graph-based representations for time–series anomaly detection with a case study on ECG arrhythmia, which strengthened my expertise in physiological signal processing (ECG/PPG) and sequence modeling. More recently, our paper ASD–GraphNet (Computers in Biology and Medicine, 2025) presents a graph learning approach for clinical neuroimaging. Beyond research, I co–founded UbiHealth in Lugano, a startup focused on intelligent wearable technology for remote patient monitoring, giving me hands–on experience translating algorithms into user–centric prototypes.

I am particularly excited by Huaweis vision to advance micro hand gesture recognition and multimodal health monitoring on wearables. I bring:

- Strong ML and signal processing background across IMU/EMG/PPG/ECG pipelines: denoising, segmentation, feature learning, self–supervision, and sensor fusion.
- Proficiency in Python/PyTorch for deep learning (temporal CNNs, Transformers), classical ML (scikit–learn, XGBoost), and efficient evaluation on embedded/edge targets.
- Experience designing human–centric interactions for wearables, including gesture–driven interfaces and context–aware health insights from time–series.
- A publication mindset with the ability to build product–ready prototypes and collaborate across ML, CV, and HCI teams.

Selected highlights that match the role:

- Micro–gesture and activity recognition: Work with IMU–based activity modeling; familiarity with EMG/PPG feature extraction and representation learning; interest in few–shot personalization and domain adaptation for wearables.
- Health monitoring: ECG/PPG analytics from my MSc thesis; experience with stress/sleep proxies (e.g., HRV); practical pipelines for motion artifact handling and robust inference.

- Edge AI: Pragmatic engineering background (FastAPI, Docker, data pipelines) supporting on–device inference workflows, model compression, and telemetry for iteration.

In addition to my technical profile, I value collaboration and clear communication. I have worked in international teams (Canada, Switzerland, Iran) and contributed to production systems (Tali AI) as well as research prototypes. Given the recent relocation of my PhD supervisor due to regional instability, I am seeking a stable, impact–oriented environment where I can contribute immediately and grow. Huaweis Zurich research team is an ideal fit for my skills and aspirations.

I would be thrilled to discuss how my background in multimodal sensing, health analytics, and gesture–based interaction can contribute to Huaweis next–generation wearable experiences. Thank you for your time and consideration.

Sincerely,

Amirehsan Davoodi