Michael Notter
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Meta

September 26th, 2025

Application for Research Scientist, Neural Interfaces – Machine Learning

Dear Alex and EMG team,

I am a senior research scientist with 10+ years' experience in neuroimaging (MRI & EEG) and 8+ years in machine learning. I currently serve as AI lead on a project co-developed with Meta Reality Labs in Redmond, where we are building a wearable sensor system that uses high-frequency biosignals for action inference, intent understanding, and eye-tracking. The signals are sEMG-like, i.e., multi-sensor signal streams with most information in the frequency domain.

In my current work I design recording protocols and stimulus paradigms, run multi-user data collection to address inter- and intra-user variability, build robust signal-processing, quality-control, and data-augmentation routines, and train custom models for time-series regression, event detection, sequence-to-sequence prediction, sensor fusion and data compression. I target deployment on resource-constrained edge-AI devices, optimizing for real-time, low-latency inference and low power, with use-case-dependent performance trade-offs and a focus on broad population coverage with minimal or no per-user/per-session calibration. As these tasks closely mirror the description of your posting, I believe I would be a strong fit for this role.

For an internal reference, please feel free to contact Ehsan Vadiee, Research Scientist at Reality Labs Redmond. He can speak directly to the breadth, depth, and quality of my work, my cross-functional collaboration, and my independent and fast execution.

Beyond this, my previous work experience highlights a unique blend of neuroscience, applied ML, and advanced signal processing across MRI, EEG, PPG, SMI, ECG, and eye-tracking, using PyTorch, TensorFlow, scikit-learn, ONNX, MNE, Nipype, etc. Next to my 12+ publications in neuroscience, I also hold seven patents spanning DL-based eye-tracking with self-mixing interferometry (SMI), oculo-cardiography via the eyeball, and ML-informed sparse frequency decomposition for low-cost edge devices.

Working on a neural interface such as the Neural Band would be a dream come true. It is one of the first technologies I've seen that can bridge the physical, digital, and cognitive worlds. Connecting these domains in a responsive feedback loop is the long-term goal that motivates my career, and it is why I am drawn to your work.

Now the catch: I unfortunately must remain Swiss-based and cannot relocate to Paris, because my daughter with a disability is integrated into a stable therapy and school system. However, I can match on-site presence; my constraint is on relocation, not travel. I can be in the Paris office 2–3 days per week or work in multi-week sprints as needed, effectively operating like a Paris local, depending on project needs. I understand that this request is non-standard, but I would appreciate it if you could consider a Swiss-based employment arrangement while I work in your team. I believe I have the work experience, credentials, and personality to be a great fit for the team and that I could quickly add significant value to the project.

To support my claims, I can ask Ehsan to share a brief endorsement or speak with you. I can also provide a short non-confidential project brief mapping my current work to the role, and I am of course available for a meeting to discuss fit and logistics in person.

Thank you for your time and for considering my application.

Sincerely,

Michael Notter