

Georgios Detorakis
Independent Contractor
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August 14, 2024

To whom it may concern,

I am writing to express my interest in the “Algorithms and Machine Learning Engineer III/IV” position opening at Beacon Biosignals.

With a Ph.D. in Computer Science from the University of Lorraine and Inria Nancy Grand-Est, France, and postdoc fellowships at CentraleSupélec in France and at the University of California Irvine, I have delved into the complexities of Parkinson's disease and researched neuromorphic computing. My extensive publication record in renowned journals and conferences, including Nature Communications and NeurIPS, reflects my significant contributions to the academic world. My research spans neuroscience and control theory to deep learning and neuromorphic computing.

I have a wealth of experience in machine learning, neural networks, and deep learning, having worked in the field since 2010. I've created algorithms for self-organizing processes, neural models, and deep learning applications on neuromorphic devices. Over the past five years, I've focused on developing algorithms and statistical methods for time series analysis and forecasting. I utilize traditional signal processing techniques such as wavelets, coherence, and spectral analysis. Furthermore, I design and develop machine learning and deep learning algorithms for forecasting and probabilistic forecasting of financial time series. Finally, I have used generative models such as variational autoencoders and GANs to create synthetic scenarios for time series forecasting or anomaly detection.

Another part of my research in the past was Parkinson's disease (PD) and the improvement of deep brain stimulation (DBS) for treating PD. I built mathematical models simulating the behavior of Parkinsonians and how a closed-loop deep brain stimulation protocol would help them alleviate their motor symptoms. Furthermore, I participated in developing spike sorting algorithms and have experience conducting electrophysiological experiments such as EEG/EMG recordings on human subjects and intra/extracellular recordings on rodents. Moreover, I have experience processing, analyzing, and modeling electrophysiological signals such as EMG and EEG.

My proficiency in programming languages such as Python, C, C++, and Matlab has allowed me to develop software with diverse applications, from neural simulators to machine learning tools and genetic algorithms. You can find a comprehensive list of my software on my webpage: <https://gdetor.github.io/software>.

I am eager to meet and discuss this position. For a more detailed listing of my skills, background, and achievements, please review my CV or visit my webpage: <https://gdetor.github.io>. I appreciate your consideration, and I eagerly await your response.

Best Regards, Georgios Detorakis, PhD

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