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Philips

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To Whom it May Concern,

Re: “Computational Modeling Scientist”

I am applying for the position of “Computational Modeling Scientist” (ref 555573), having seen the opportunity on LinkedIn, as I believe I would be a ideal candidate for this role.

I am an applied mathematician by training, I have worked, as a computational scientist, at the interface between academic research and industry for over ten years, in the United Kingdom and Germany. My primary field is in therapy and imaging with medical ultrasound, but have wealth of experience in other fields, such as micro-fluidics, image reconstruction and the modelling of radiofrequency and microwave propagation within the body. As such I am familiar with many types of mathematical models and am able to quickly learn from the physics of the problem what the best numerical approach and deployment could be, given constraints such as computational resources.

Furthermore, I have worked in inter-disciplinary teams and can understand clinical problems from engineering, physics and mathematical perspectives. I have used the results of my simulations to deliver design recommendations to SMEs and international companies in the medical field in the context of foetal and doppler ultrasound, microwave ablation and in the design of breast imaging devices.

I have used my mathematical skills and experience to write high-performance, well-documented, well tested, deployable code, compliant with technical standards, such as ISO 13485 and IEC 62304. I have many of the core technical skills required: C/C++, Python, MATLAB, software testing, issue tracking with JIRA, continuous integration/deployment in GitHub/GitLab. I have some knowledge of Java and Mathematica, but can quickly learn new languages.

I have proven expertise in acoustics (I am a member of IEC technical committee 87 on ultrasonics), electromagnetics (through modelling of radiofrequency ablation) and wave propagation (developed models for design of microwave ablation devices for commercial partners). For these tasks I have used commercial programs (COMSOL), open source software (FENICS) as well as developing in-house solutions. I have lectured final year students in finite-element analysis and numerical methods. I am a maintainer of a ultrasound solver, k-wave-python, which is widely used around the world by both research and commercial groups.

I am applying as there are structural changes at my current role which may reduce opportunities for development. I am enthusiastic about this role as it combines cutting-edge technology with a growing industry. I believe that it is better to work together than apart, and am willing to relocate.

Please find enclosed my résumé, and let me know if you require any additional information.

Yours faithfully,



David Sinden

Attached: Résumé