David Sinden, PhD
david.sinden@gmail.com
djps.github.io
djps | *david_sinden*

POROUS GmbH
Am Mühlenberg 11
Room 115-116
14476 Potsdam
Brandenburg

August 21 2025

To Whom it may Concern,

Re: "Senior Ultrasound Engineer"

I would like to have applied for the position of "Senior Ultrasound Engineer", having seen the position advertised in LinkedIn.

I am an applied mathematician by training, but have worked at the interface between academic research and industry for over ten years, in the United Kingdom and Germany, primarily in therapy and imaging with medical ultrasound but also in other clinical areas, such as ultra-low field MRI. As such, I am comfortable in working in interdisciplinary environments, and can translate clinical challenges into technical problems, and develop solutions.

I believe I would be a good fit for the position, I have experience of ultrasound development, although at leading metrology laboratory, applied research institute, and university clinic, rather than leading medical imaging company. This is an advantage, as while at the metrology laboratory gained experience in calibration, as well as modelling of prototype 3D-printed bone phantoms. I have gained an understanding of the regulatory requirements of bringing a product into clinical practice. I have used my mathematical skills to write performant, well-documented, tested, deployable code in both Python and C++, compliant with both ISO 13485 and IEC 62304. I have experience of GPU programming in both Python and in OpenCL. I have used MATLAB professionally for over ten years.

I have deep knowledge of classical beamforming and image reconstruction, and have a good theoretical knowledge of deep learning: I was a key figure in a team which was joint first place in the "Challenge on Ultrasound Beamforming with Deep Learning" competition in 2020. I gave a invited lecture on the use of AI in therapeutic ultrasound at the prestigious therapeutic ultrasound conference, ISTU, in 2023.

I am a maintainer of the open-source library k-wave-python which is widely used by many ultrasound researchers and companies. I have extended the package to include elastic wave propagation, with the aim of modelling QUS in cortical and trabecular bone.

I am applying as there are structural changes at my current role which are reducing opportunities for growth. I am enthusiastic about this role as it combines cutting-edge technology with enduring, widespread impact. As may be evident, I have primarily worked with software projects, I am keen to expand my hardware engineering skills and confident that, with some support from the hardware team, and my ability to learn quickly will enable me to take ownership of projects in a short space of time.

Please find enclosed my resume, and let me know if you require any additional information, please do not hesitate to contact me. I look forward to your reply.

Yours faithfully,

David Sinden

Attached: Résumé