Dear Prof. (Dr.) XXX,

I am Sourangsu Banerji, a recent Ph.D. graduate having worked under the supervision of Prof. Berardi Sensale-Rodriguez and Prof. Rajesh Menon at University of Utah, USA. My Ph.D. thesis was on “Solving Optical Inverse Problems using Computational Methods”.

I recently came across your paper on XXX which is “XXX” I agree with most of the thoughts presented in the paper even with regards to your views regarding XXX. As you can see, I am very much interested in your current research projects as I am closely working on one of them and I have been following your work with great interest. I will be extremely obliged to gain your consideration to have a chance to work in your research group as a post-doctoral researcher.

During my PhD, I worked on utilizing computational algorithms to solve optical inverse design problems so as to achieve "extreme" or almost "thought to be impossible" results in two different sub-areas of optics: (a) diffractive optics (free-space) and (b) nanophotonics (on-chip). With respect to diffractive optics, I showcased extreme lens functionalities like super achromaticity, extreme depth of focus (DOF), and ultra-large field of View (FOV). Extending the same design methodology, I also showed how machine learning can help in engineering amongst the smallest integrated photonic devices, which could fuel a future Moore's law for photonics. Keeping in mind your busy time schedule, I have attached a pictorial summary of my PhD dissertation. Given my line of PhD research, I am well versed with almost all simulation tools like Lumerical, Meep, COMSOL etc. as well as industry standard lens design tools like Code V, Zemax, FRED etc. I am also well versed with optical experimental setups and tools.

My main motivation to work under your supervision comes from the urge to explore the work that I am doing from a more theoretical point of view rather experimental. Most of the PhD work that I have done with flat lenses or nanophotonics has been heavily experimental with much less stress on “theory”.

I consider myself strongly motivated and hardworking researcher which make me like to work on new technologically challenging research fields/projects. Therefore, it would be a great opportunity to me if I get a chance to work in your research laboratory.

Please let me know your views in this regards. I have attached my recent CV herewith for your perusal. Eagerly looking forward to hearing from you.

Thanking you,
With Best Regards,