Dear Dr. Bert de Vries,

I am writing to apply for the position of PhD on probabilistic programming for machine learning. I’m currently working as a senior data scientist in Trend Micro which is a global well-known cyber security company. In my past working experience, using machine learning and probabilistic programming is a common method to solve the quality issues during wafer manufacturing. However, it is not easy to get the results we want from those analytic methodologies. As an enthusiastic engineer, I decided to make machine learning researcher as my next career goal.

During my past professional career, I worked as a data engineer in the world’s most admired wafer manufacturing company, Taiwan Semiconductor Manufacturing Company (TSMC). When I was working in the department of Computer Intelligent Manufacturing (CIM), I had built a big data solution which processed 6 billion data per day on which I designed multiple systems to detect the significant changes in the processes. Since this was a cross-department project, I also worked deeply with engineering department and quality control department and finally we made 4% yield improvement in wafer fabrication.

While I was working in the yield improvement project, I noticed that using statistics and machine learning to automatically discover the small changes on the processes is challenging and this experience has motivated me to go deeper in the probabilistic machine learning field for my future career. For example, using the traditional statistics with p-value approach cannot deal the problem with such high volume and complexity of data; however, using an intelligent agent developed by your lab can be helpful to carry out the correct results.

I believe that I am appropriate for your lab because I also have experience on teaching and software engineering. I usually spent time teaching people using R to vectorize code, manipulate data in an efficient way and overcome the bottleneck of performance with C++ in workplace, my blogger or programming community. I am also chosen as the administrator in the biggest community of R programming to let more people write a descent and performant R code. On the other hand, I also devoted my time to develop several R packages to help people easily use the functions I made to solve their problems.

Given my background, I believe my academic and practical knowledge are also beneficial to your research.

My versatility, ability to learn quickly and adapt to diverse situations would make me a great candidate.

Thank you for considering my application.

Sincerely,

Ching-Chuan (Jamal) Chen