I'll do the classic but efficient why me, why you, why us.

Why Me ?

During my short (but hopefully intense) life, I like to believe I've acquired a quite diverse set of skills, that I would like to use to contribute to the common good, to Google. I have studied machine learning both during my curriculum and through some personal projects which allows me to develop both a theoretical and practical understanding of the field.

For instance, implementing myself with numpy the backpropagation equations for a recursive neural network gave me a deeper understanding of how things works under the hood.
Currently my main personals projects include a seq2seq chatbot inspired from the Oriol Vinyals et al "A Neural Conversational Model" publication, some experimentation on music composition through RNNs and RL on Atari games. Before that, I worked on numerous projects including a person re-identification system, some GUI apps, a VR app, a mobile robot and some other machine learning projects. I started programming C/C++ in middle school and since then never stopped to extend my knowledge in very diverse areas and languages.

While I was a research intern in Japan or within TeraDeep, I had to quickly reproduce and validate scientific results as well as summarize and share my discovery with the rest of the team. If you read this, congratulation, you have all my gratitude. I would have never suspected that my cover letter would actually be read by someone. I understand the whole pipeline from gathering key points from the publications to the model implementation and playing with the hyperparameters.

I'm continuously trying to improve my knowledge and keep track of the recent progress in the field. Last summer for instance, I assisted at a deep learning summer school featuring Yoshua Bengio in Switzerland or the Yann LeCun deep learning course at "Collège de France".

Why Google ?

Along with Mila, DeepMind, Idsia and FAIR, Google Brain is one of the leading research center in the world of machine learning and dominate the big conferences. Google has always been a key player on the field of machine learning and the future will only reinforce Google's current position.

Google has a scale, resources and ambition that most companies only dream off.

Why Us ?

With all the recent works done on the GAN, the new models on reinforcement learning and

translation, I think there is a lot of places to explore: in theoretical research, empirical experimentation, practical applications.

There is a lot of simple but clever tricks, like using scheduled sampling for RNN (S. Bengio et al), skip or residual connections (K. He et al.) which have been discovered on some architectures but could potentially be (and have been) extended to many other. The combination of models/tricks/parameters is almost infinite.

There are so many ideas, possibilities and, things to try and I hope the google brain residency program will give me the opportunity to test and experiment some of those.

Best,
Etienne