

To Whom It May Concern,

I am writing to express my interest and aptitude in pursuing a PhD on AI for Sciences in the Chemical Theory and Modelling group within PSL as its research areas align excellently with my academic background.

For Bachelor, I studied at the Sino-French Engineer School (*École Centrale de Pékin*) which is affiliated with Beihang University (BUAA, Beijing, China) and is also a member of the French *Groupe des Écoles Centrale*. Within an approach integrating Chinese Bachelor-Master education and French **multidisciplinary** General Engineer education, I have developed an interdisciplinary systemic perspective and my main interest in **Machine Learning** and **Data Science** gradually took shape. I chose “Data Mining Based on Machine Learning” as the topic for my graduation thesis. In this project, I leveraged digital information available on our campus to model students and match suitable academic tutors to them (published paper, DOI: 10.1109/EDUCON52537.2022.9766761). As a beginner, I have experienced the pleasure of engaging in related research. I obtained a Bachelor's degree in Pure and Applied Mathematics upon graduation.

For Master, I am pursuing Systems Engineering at Beihang University (simultaneously continuing studies in the French General Engineer program), with a focus on **Artificial Intelligence**. Continuing my research in Data Mining and Recommendation algorithms, I gradually developed an interest in **Graph** and **Self-supervised Learning**. I started utilizing **Graph Neural Networks** to address issues within recommender systems. Regarding this topic, one of my works has been recently published by CIKM 2023, while another work is being submitted. I am also collaborating with one of my friends, working on utilizing spatiotemporal GNN for a stock price prediction task.

For me, **Graph** is not merely a tool for recommendation or stock price prediction; it represents a vital data structure. It can be used to model intricate network structures, build rich knowledge graphs, and even serve in the modeling of biological and chemical molecules – a matter of significant importance for human future, as can be applied to tasks like protein function prediction, physical/chemical reaction prediction and drug development. Therefore, I am eager to pursue a PhD in fields like **Graph (Self-supervised) Learning and GNN**, and I look forward to our research in Graph making a significant contribution to solving problems, including those in **AI for Sciences** (like bioinformatic/chemical/physical problems).

PSL is a prestigious university internationally and is also my ideal academic institution. After completing the PhD, I plan to pursue a postdoc and subsequently work as a teacher (professor) for computer science. I believe that with my knowledge and experience in this increasingly important field, I can contribute to both the PSL team and the advancement of AI, with an eye on the needs of human future.

Best regards,

Guanming Chen.