

Application for the MSc in Applied Artificial Intelligence

I am honored to apply for the Master's degree in Applied Artificial Intelligence at Cranfield University that would allow me to follow high-level courses and allow me to access a career combining artificial intelligence and mobility.

While studying at the Ecole des Mines de Nancy, in the Department Industrial Engineering & Applied Mathematics, I became aware of the potential of artificial intelligence and its **utility** to solve current engineering problems. Indeed, my teachers have shown me how **useful** data analysis techniques can be in the industry. For example, I have learned how to extract knowledge from a large amount of heterogeneous data or even time-series prediction techniques, which can be applied in finance, among others. I have made these choices in order to prepare myself for industrial issues and to take the first step towards a specialization in Artificial Intelligence. Indeed I would like to specialize in this field thanks to a high-level training as Cranfield University could offer me. My will is to build up a solid knowledge of AI and to become an actor in the current technological revolution, as it has not stopped developing in companies and has now become a flagship competence for innovation and competitiveness. While data science has a beneficial effect on the growth of most companies, there is also an ethical dimension that needs to be well understood that **Cranfield** integrates into its curriculum and allows students to apply their techniques with an awareness of societal issues. In addition, Cranfield University academics are among the leaders in their field and are able to offer their views on the latest developments in the industry. I want to see how this technology will impact society but not from the outside, I want to be a player in this revolution.

I believe that an engineer should not only be a technician because if applied science provides concrete solutions to problems, we must not lose sight of the context in which technique is used. Being aware of the world and the challenges of our time is a real priority for me because I believe that technology can only bring progress if it is based on universal values such as respect for human beings. For me, living together and the habitability of the planet are two issues on which engineering can and must help. It is particularly true in the field of mobility that I believe artificial intelligence will play a decisive role in the years to come. I realized this when I was an intern at Wintics, a company specializing in the use of deep learning to track vehicles on video but which also designs decision support tools for intelligent urbanization. While accompanying a data scientist in his job, I was able to realize the potential of AI to improve the urban environment. Concretely, I developed a code which, based on territorial data, determines the most optimal locations for positioning electric car charging stations. This allowed me to get an overview of the processing of a database with heterogeneous information and to learn how to implement a statistical method of classification. Finally, I was able to see what AI can be used in the field of mobility. Besides I have also had the opportunity to work on

other projects, at the Ecole des Mines de Nancy, always related to travel: optimizing the trajectory of an aircraft in the presence of winds, optimizing the delivery of a set of trucks, particularly by taking into account loading constraints. Through these different projects, I have realized that I want to learn more about artificial intelligence, in order to become an engineer who would play an active role in the transport revolution. I am particularly fascinated by the transition to a more autonomous commercial aviation, as witnessed by the recent first automatic take-off of the Airbus A350. Studying at Cranfield University would give me the chance to interact with other aviation enthusiasts, both professors, and students. My links with aeronautics have always been very strong, as I have been involved in many activities related to aviation since I was very young: model aircraft building since I was 14 years old, then the aeronautics initiation certificate at the age of 16, which then led me to make my first motorized flights. Then in 2018, I took part in the International Air Cadet Exchange, during which I had the chance to discover England and its important aeronautical culture. I would therefore like to study at Cranfield to be in contact with the aeronautical industry but also to benefit from the excellent working tools available to students. Being passionate about aviation but also about technology, I am interested in the empowerment of means of transport, because mobility is a major issue of our time.

Finally, I believe that one cannot be an agent of change alone, but by knowing how to work in a group. In this respect, the teaching methods at Cranfield seem to be adapted to learning how to work in a team thanks to a substantial part of group work, which I find very interesting. I realized the importance of the collective, through my group projects but not only. In particular, I have been involved in my school's sailing association and for the past two years I've been taking part in an international sailing competition as a skipper. This commitment has helped me to understand how useful it is to involve each person in a collective task to achieve performance.

Thank you for your time and consideration.

Yours faithfully,

Théophile Cordiez