Motivation Letter

Dear Professor, I am Yuzhou Chen, a current post-graduate student in Cartography and Geographic Information Systems at the School of Geographic Sciences, Nanjing Normal University. The time when I learned about this project, there was a strong willing of me to apply for the Sandwich Program and get a deep insight into MSC AGI as a part of my research experience during my master's studies.

As a current post-graduate student, I have wrapped up four years of learning GIS techniques and computer skills to make myself capable of solving problems. But I’m nowhere near finished. My deep love for GIS is undeniable, and I’m willing to share my basic information with you:

First of all, I would like to introduce my education background and academic research experience. I received my undergraduate degree in Geographic Information Science from Nanjing Normal University and was recommended to further my study in Cartography and Geographic Information System for another three years. By taking courses and self-learning, I get the hang of some programming languages including C and Python. Now I am learning front-end language to deepen my understanding on web GIS. I have done some research work on my direction. Last summer, I took part in the Digital Deep-time Earth(DDE) project with landform classification works and did some construction works on data processing workflows, coming up with a new research idea and plan to design experiments, validate results, and write articles based on it. This idea originated from the geomorphic classification research in the DDE project. My responsibility lies in the entire continent of Australia as the experimental area. While working on the classification works, I encountered a challenging problem about how to use digital elevation model (DEM) data sources and digital terrain analysis (DTA) methods to identify linear sand dunes that are widely distributed across Australia? These dunes differ significantly from common sand dune landforms found elsewhere. Unlike relatively flat depositional substrates commonly seen domestically, regions like the Great Sandy Desert (GSD) in Australia exhibit gentle hills and low mountain-like forms as the terrain base, with locally varying surfaces showing significant elevation variations. Such topographic conditions make it difficult to accurately identify sand dune ranges using traditional methods based on reclassifying quantitative terrain factors; moreover, simulating results do not align with actual patch boundaries. Therefore, I am attempting to design a model called VoSG-SDA to solve this problem. What I am still doing now is the research on changes of soil erosion caused by terrace construction, which can quantitatively evaluate the impact of slope terracing projects on soil erosion.

I sincerely hope to join the MSC AGI project, with a goal of enhancing my foundational knowledge in GIS, as continuous learning is crucial in this vast field, but also to explore international research frontiers through a one-year exchange program in Salzburg. I aspire to acquire innovative ideas from experiments and utilize them as guidance for my future research direction while enhancing my English speaking and paper writing skills.

Before joining the project, I thoroughly reviewed and analyzed the course arrangement provided by Z\_GIS, University of Salzburg. Many courses have aroused my interest due to their optimized structure and overall learning objectives compared to our previous studies. I am excited to learn new content from these courses and gain fresh insights from an international research perspective. This experience will not only consolidate and supplement my existing knowledge but also broaden my cognitive vision of geographic applications beyond current research boundaries. Applying for the MSC AGI program signifies stepping out of my comfort zone and continuing my research in a new country with a different learning environment but sufficient available resources. As someone who embraces novelty, being inspired by new research fuels the thirst for knowledge, and I believe that Z\_GIS can provide me with cutting-edge resources and geographical research information. Moreover, conducting research in an entirely unfamiliar setting presents inevitable challenges that require self-adjustment. This program will surely help strengthen my determination, enhance my ability to handle large amounts of new information(not only in my research) and overcome any tendencies towards procrastination within myself.

I strongly feel that it is an amazing thing to study in Z\_GIS. During the first month of our study in Salzburg, we all received help and care from professors, particularly from Prof. Strobl and Manfred. We also had the chance to fully experience Salzburg's distinctive way of life and cultural atmosphere. When it comes to my first experience about some specific courses, Prof. Walentine, who was primarily responsible for teaching Spatial Simulation, made a lasting impression on me. She possessed extensive knowledge and her enthusiasm and patience in instructing us on GAMA software gave us precise and clear guidance. We are all beginners in GAMA software and Agent-Oriented Programming (AGP). Throughout the learning process, we often come across some seemingly silly questions. However, she always allows us time to comprehend and contemplate the knowledge, preventing our learning process from becoming overly stressful. I truly value the academic environment in Z\_GIS. Another course that left a deep impression on me is Scientific Methods and Writing, lectured by Prof. Lang and Hannah. They recently gave us a questionnaire to assess our current level of proficiency in scientific research writing and our writing experience, which will help guide the course's progress. Despite having a solid foundation in GIS field knowledge, there is still a lack of experience in writing SCI papers. So I completed the form carefully, sharing my previous paper reading experiences and expressing my specific needs for guidance in order to enhance my paper writing skills and boost my confidence in further studies. I really hope it can work for me.

In my daily life, I am a sunny and warm-hearted person. I love music and enjoy playing guitar with my classmates. In my free time, I will participate in volunteer works like spot guide in some interests. And I am looking forward to making friends in other countries. When came to Salzburg, I feel that this is really a beautiful and culturally rich city witnessed the birth and development of some of Europe's most renowned classical composers, including Wolfgang Amadeus Mozart. So I can feel free to take a city walk anywhere in Salzburg because you can get the view of beautiful landscapes everywhere.

I respect the reputation for academic excellence of GIS in the University of Salzburg. I appreciate that yours is a school that encourages students to achieve their potential both inside and outside the classroom to make progress. Hope my diverse interests would make me a great fit for your school. I promise to be responsible for my work and honest with my studies.

I really appreciate your time spent reading my motivation letter, and I am very privileged to have the opportunity to study here. To be open, to strive. That is the only thing I should do in the days to come. Thanks again for the instructions at the very beginning of a new semester in *Orientation and Introduction* and the guidance on getting access to ArcGIS Online resources.

Best wishes!

Yuzhou Chen