**Hai Jiang**
*Guangzhou, China*
📞 *+86 19867713757*
✉ *jiangh14@lzu.edu.cn*

February 22, 2025

**Admission Committee**
*Aalto University*
*School of Engineering*
*Department of Built Environment*
*GIScience for Sustainability Transitions (GIST) Lab*

Dear Members of the Admissions Committee,

I am writing to express my strong interest in the PhD position in GeoAI and Large Language Models at your university. With a Master's degree in Computational Mathematics, extensive hands-on expertise in AI-driven medical image analysis, and a deep passion for leveraging Large Language Models (LLMs) in geospatial science, I am eager to contribute to your research program.

During my Master's studies (2019-2022), I specialized in Generative Adversarial Networks (GANs) with a focus on style transfer learning for personalized Chinese handwritten characters. This project sharpened my technical skills and reinforced my ability to apply innovative deep learning techniques—capabilities that I am enthusiastic to extend to cutting-edge LLM applications in your group's interdisciplinary research.

As a research assistant at Sun Yat-sen University's Computational Medical Imaging Lab, I led two interdisciplinary projects that combined deep learning with clinical diagnostics. I developed a multi-task learning model to classify the severity of Placenta Accreta Spectrum Disorder using T2-weighted MRI images, achieving an AUC of 0.80. Additionally, I designed a CNN-based system to predict breast cancer metastasis in Sentinel Lymph Nodes via dual-energy CT scans, attaining an AUC of 0.85 in cross-validation. These experiences enriched my expertise in medical image analysis and deep learning, while also honing my skills in scholarly review, framework design, manuscript preparation, and interdisciplinary collaboration.

I am particularly drawn to your program's emphasis on using LLMs to extract geographical information and navigation-related features from multimodal data, which aligns perfectly with my ambition to advance AI techniques in geospatial science. During my PhD, I plan to: (1) Stay current with the latest advancements in LLMs; (2) Develop robust methodologies for multimodal data analysis—including preprocessing, feature extraction, and data fusion; (3) Collaborate with interdisciplinary teams to apply these models in navigation instruction generation; (4) Design and test an integrated visual and language navigation system; (4) Publish my findings in leading AI/ML conferences and journals.

A PhD at your university represents the ideal environment for me to advance my academic goals and contribute to innovative research in GeoAI. In the long term, I aspire to lead research in large language models and AI-driven geospatial science, and I am excited by the prospect of collaborating with a diverse team of researchers.

Thank you for considering my application. I am available to start **immediately** and am eager to contribute to your program at the **earliest** opportunity. I look forward to discussing how my background and research interests align with your department's strategic objectives.

Sincerely,


**Hai Jiang**