Dear Graduate Admissions Committee,

Upon request, I am taking the privilege to highly recommend Sun Qi for graduate study at your distinguished university based on his outstanding performance and contributions during his involvement in a research project within my group starting from the summer of 2023.

Sun Qi reached out to me and expressed his interest in joining my research group for a summer project (intern? summer research?). After assessing his background and skills, I assigned him to the project of Advanced Techniques for Handling Malicious Traffic in Large-Scale Networks. In this project, he handled the responsibility of constructing a knowledge base for Cyber Threat Intelligence (CTI) and developing code to build a knowledge graph based on CTI reports. The specific focus was on breaking new ground in constructing fine-grained attack and defense knowledge graphs to explore intelligent techniques for handling malicious traffic based on knowledge-assisted decision-making.

His primary task involved implementing the code for constructing the knowledge graph. Sun Qi demonstrated impressive proficiency in extracting various types of Structured Threat Information eXpression (STIX) entities mentioned in a vast array of CTI reports. He successfully identified relationships between different entities within a single report, laying the foundation for the construction of a comprehensive knowledge graph.（不是我提取实体，是我写了一个模型提取实体） Despite the inherent difficulties, he rapidly acquired knowledge about CTI and STIX, thoroughly studied recent representative articles in the field,（张鹏那篇已经着重提到了读论文的事了，这里重复提略显冗余刻意） and developed a clear understanding of the task at hand, by means of which he adeptly addressed challenges such as limited existing entity knowledge bases and the extraction of long-distance relationships between entities.

Remarkably, Sun Qi independently managed the entire process of this task, and revealed his exceptional coding skills and innovative thinking（我的innovative thinking在于：不仅使用了前人常用的AC算法提取新实体，还创新性地使用了词性标注法和关系依赖图两种NLP技术：首先排除掉那些不可能的词性的词，缩短检测范围，节省时间；再使用关系依赖图来确定目标词在句子中的依赖关系，以此来减少检测误差）. His effort not only contributed significantly to the current project but also positioned his model for use in future developments within the research area.（太过夸大） The model he developed will play a crucial role in providing essential support for knowledge-assisted decision-making in the field of intelligent techniques for handling malicious traffics.（王老师建议工作介绍的篇幅可精简一点；我建议将我与其他组员一同完成模型改进的点写进来）

I am confident that Sun Qi’s academic background and capacities will make him an ideal candidate for graduate study. His outstanding performance in our research project revealed his potential and commitment to advancing in the field. I highly recommend him for admission to your graduate program, where I am certain he will continue to excel and make meaningful contributions to the academic community.

Please offer the student your most considerate evaluation. If you require additional information, please feel free to contact me.

Yours Truly,

Prof. Wang Weiping

[wpwang@csu.edu.cn](mailto:wpwang@csu.edu.cn)

School of Computer Science, Central South University