Dear Graduate Admissions Committee,

I am writing this letter to strongly recommend Sun Qi for graduate studies at your distinguished university. As a research fellow at the Institute of Information Engineering, Chinese Academy of Sciences, I mentor several student interns each year. Sun Qi stands out as an exceptional candidate among those students and his dedication and research abilities have truly impressed me.

Our acquaintance began in May 2023 when he proactively reached out to me via email, expressing his keen interest in the field of network security, and expressed his desire for a research project focused on phishing website detection using deep learning models. His genuine enthusiasm for network security immediately caught my attention, persuading me to become his adviser.

Despite his initial limited knowledge in the domain of phishing website detection, Sun Qi displayed a remarkable ability to quickly grasp complex concepts and delve into the intricacies of the field. To fast comprehend knowledge in this field, he immersed himself in the subject matter, diligently collected and studied a comprehensive selection of research papers, including those from 2020 onwards that were considered highly representative and widely cited in the realm of URL sequence-based phishing website detection, and absorbed the insights from some of the classical articles I recommended, amounting to a total of approximately 50 papers. Remarkably, he thoroughly read all of these papers and meticulously analyzed the most influential and innovative 12 articles among them, extracting their core ideas. All of these readings allowed him to embark on the challenging task of building upon these ideas to develop his own innovative approach.

Sun Qi revealed his terrific creativity too during the studies. He proposed a novel methodology that effectively combines the strengths of different models. His approach begins with a parallel Convolutional Neural Network (CNN) layer featuring multiple kernels of varying sizes, allowing for the extraction of diverse local features while reducing training and detection times. Following this, he integrated the outputs of the convolutional layers into a Gated Recurrent Unit (GRU) model, which proved to be both efficient in terms of training and adept at extracting contextual information. Finally, he applied an multi-head attention layer to enhance feature weighting and employed a fully connected layer for result output. This innovative model achieved an impressive accuracy rate of 98%(提升的是训练和预测速度，准确率并不是创新点)( 在达到与baseline模型的performance相差无几的前提下（准确率Accuracy达98.3%），运行效率提高了至少34.93%，速度大幅提高。), signifying a substantial improvement over existing models on the same dataset.

In addition to his research capacities, Sun Qi is a dedicated and hardworking individual who consistently showcased a strong commitment to his academic pursuits. He possessed excellent communication skills and seamlessly integrated into our research team, actively participating in discussions and contributing valuable insights.

In conclusion, it is without reservation that I recommend Sun Qi for admission to your esteemed graduate program. His research abilities and innovative thinking will make him an asset to his advanced studies. I am confident that he will continue to excel and make significant contributions to the field he devotes himself to.

Yours Sincerely,

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Associate Perfessor

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