附件 2：

研究生国家奖学金申请审批表

<table>
<tr><td rowspan="6">基本情况</td><td>姓名</td><td>曾义夫</td><td>性别</td><td>男</td><td>出生年月</td><td>1995.08.06</td></tr>
<tr><td>政治面貌</td><td>共青团员</td><td>民族</td><td>汉</td><td>入学时间</td><td>2018.09.01</td></tr>
<tr><td>基层单位</td><td>信息与软件工程学院</td><td>专业</td><td>软件工程</td><td>攻读学位</td><td>学术硕士</td></tr>
<tr><td>学制</td><td>3 年</td><td>学习阶段</td><td>☑硕士
□博士</td><td>学号</td><td>201821090126</td></tr>
<tr><td>身份证号</td><td colspan="5"></td></tr>
<tr><td>申请理由</td><td colspan="6">作为一名信软学院的保研学生，进入课题组后在导师的指导下，我一直在各方面严格要求自己，积极向上，不断进取，也取得了一定成绩，现总结如下：
科研方面，我勤奋努力，认真钻研，与师兄合作完成对 AAAI，WWW 等顶级国际会议的投稿，并且相关论文“Content Attention Model for Aspect Based Sentiment Analysis”成功被 WWW 2018 录用。同时，在导师的指导和帮助下，我作为第二作者的论文“STAMP: Short-Term Attention/Memory Priority Model for Session-based Recommendation”被 KDD 2018 作为 Regular Paper 录用。
实践方面，在导师的悉心指导下我参与并完成了导师交给的各项任务如自然基金面上项目，四川省科技厅项目，装备预研领域基金项目。在这个过程中将专业知识应用到实践，同时锻炼了自己与外界沟通的能力。
创新能力方面，在科研过程中，我善于总结、发现问题，并通过咨询导师、查阅文献、与同学进行讨论等方法积极寻找问题的答案，同时不畏困难，敢于进行新实验的探索，探寻未知的领域。
德育方面，虽然我不是一名中国共产党党员，但我时刻以一名共产党员的身份要求自己。我热爱集体，积极组织并参与班级活动，积极维护班级荣誉；关心同学、乐于助人，坚持为人民服务的宗旨，人际关系融洽，在同学中威信较高；科研中坚持严谨认真的作风，坚决摒弃弄虚作假等行为。
另外，在取得优异的学习成绩和科研成绩的同时，暑假期间我还前往英国伦敦参加 KDD 2018 国际会议，并在大会上做口头报告，对领域前沿的问题、挑战、人物动态有了更直观深入地了解，并借此机会增强了与国际同行的学术交流和联系。
综上所述，我认为自己从保研到进入研一期间的认真努力、勤奋上进换来了德育水平、科研能力、实践能力、创新能力、综合素质等各方面的进步，我一定会继续努力，以更饱满的斗志投入到后面的学习和工作中。在这里，我提出研究生国家奖学金的申请，希望能够作为对自己过去成绩的一种肯定，这个奖项必会激励我再接再厉，为国家、为母校的繁荣贡献更大的力量。

申请人签名：曾义夫

2018 年 9 月 27 日</td></tr>
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STAMP: Short-Term Attention/Memory Priority Model for Session-based Recommendation

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ABSTRACT

Predicting users' actions based on anonymous sessions is a challenging problem in web-based behavioral modeling research, mainly due to the uncertainty of user behavior and the limited information. Recent advances in recurrent neural networks have led to promising approaches to solving this problem, with long short-term memory model proving effective in capturing users' general interests from previous clicks. However, none of the existing approaches explicitly take the effects of users' current actions on their next moves into account. In this study, we argue that a long-term memory model may be insufficient for modeling long sessions that usually contain user interests drift caused by unintended clicks. A novel short-term attention/memory priority model is proposed as a remedy, which is capable of capturing users' general interests from the long-term memory of a session context, whilst taking into account users' current interests from the short-term memory of the last-clicks. The validity and efficacy of the proposed attention mechanism is extensively evaluated on three benchmark data sets from the RecSys Challenge 2015 and CIKM Cup 2016. The numerical results show that our model achieves state-of-the-art performance in all the tests.

CCS CONCEPTS

• **Information systems** → **Information retrieval**; Recommender systems; • **Computing methodologies** → *Neural networks*;

KEYWORDS

Behavior modeling, Session-based recommendation, Attention model, Representation learning, Neural networks

KDD 2018, August 19–23, 2018, London, United Kingdom

ACM ISBN 978-1-4503-5552-0/18/08…$15.00
https://doi.org/10.1145/3219819.3219950

ACM Reference Format:
Qiao Liu, Yifu Zeng, Refuoe Mokhosi, and Haibin Zhang. 2018. STAMP: Short-Term Attention/Memory Priority Model for Session-based Recommendation. In *KDD 2018: 24th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining, August 19–23, 2018, London, United Kingdom.* ACM, New York, NY, USA, 9 pages. https://doi.org/10.1145/3219819.3219950

1 INTRODUCTION

Session-based Recommender systems (SRS) are an important component of modern commercial online systems, usually used for improving user experiences by making suggestions based on user behavior encoded in browser sessions, and the recommender's task is to predict users' next actions (click on an item) based on the sequence of the actions in the current session[5, 21].Recent studies have highlighted the importance of using recurrent neural networks (RNNs) in a wide variety of recommender systems, among which the application of RNNs in session-based recommendation tasks has led to significant progress in the past few years [6, 17]. Although RNN models have been proven useful in capturing users' general interests from a sequence of actions[20], learning to predict from sessions is still a challenging problem to tackle largely due to the uncertainty inherent in user behavior and the limited information provided by browser sessions[18].

Based on existing literature, almost all the RNN-based SRS models only consider modeling the session as a sequence of items, without explicitly taking into account that users' interests drift with time[6], which could be problematic in practice. For example, if a specific digital camera link has just been clicked by a user and recorded in a session, it is highly likely that the user's next intended action is *in response to* the current action. (1) If the current action is to browse the product description before making a purchase decision, then the user is very likely to visit another digital camera brand catalog in the next move. (2) If the current action is to add a camera into the shopping cart, then the user's browsing interest is likely be changed to other peripherals such as memory cards. In this case, to recommend another digital camera to that user would not be a good idea, albeit that the initial intention of this session is to buy a digital camera (as was reflected in the previous actions).

In typical SRS tasks, the session consists of a sequence of named items, and the user interests is hidden in these *implicit feedbacks*(e.g.,clicks). In order to further improve the predictive accuracy of the RNN models, it is important to have the ability to learn both