

PRESS RELEASE
Sydney, Australia, April 2025

**The International World Wide Web Conference Committee Selects
“Factorizing Personalized Markov Chains for Next-Basket Recommendation”
for the 2025 Seoul Test of Time Award**

Research published in 2010 to be recognized by IW3C2 for profound and lasting impact on the field.

Sydney, Australia, April 2025 – The International World Wide Web Conference Committee (IW3C2) announced today that the 2025 Seoul Test of Time Award will be presented to the authors of the paper [“Factorizing Personalized Markov Chains for Next-Basket Recommendation”](#), Steffen Rendle, Christoph Freudenthaler and Lars Schmidt-Thieme.

The award will be presented during the opening ceremony of the 34th international conference in The ACM Web Conference series (formerly known as International World Wide Web Conference, abbreviated as WWW), hosted by the team in Sydney. See <https://www2025.thewebconf.org/> for details.

The paper was first presented at the 19th International World Wide Web Conference in Raleigh Durham, USA in April 2010. It now has over 2,800 citations and was deemed the winner on technical merits and impact.

Ryen White, Chair of the Seoul Test of Time Award Committee, said:

This important paper on Factorized Personalized Markov Chains (FPMC) has shown significant and growing impact on recommender systems and beyond, with over 500 citations last year alone. It innovatively combines two popular recommendation methods—Markov Chains and Matrix Factorization—addressing data sparsity with a novel transition cube decomposition. Recognized for its foundational contributions and relevance to emerging research challenges, the paper is a worthy recipient of the test of time award.

Dame Wendy Hall, Chair of IW3C2, said:

IW3C2 is very happy to present the 2025 Seoul Test of Time award to Steffen Rendle, Christoph Freudenthaler and Lars Schmidt-Thieme for their groundbreaking paper that the award committee felt has made profound technical, theoretical and practical contributions to the field. It still has a strongly increasing annual citation rate, many years after publication, demonstrating its lasting impact. I remember the Raleigh Durham conference well and it’s exciting to know that research presented at that conference is still having a significant impact on the field."

Steffen Rendle, Christoph Freudenthaler and Lars Schmidt-Thieme. Authors, comments:

"We are deeply honored and grateful to receive the Seoul Test of Time Award 2025. Sequential recommendation predicts a user’s next action based on their previous interactions. Traditional approaches relied on transition matrices between pairs of items. Our work introduced embeddings in sequential recommenders. We proposed to model the sequential patterns through a factorized personalized transition structure by embedding users and items and learning their transition behavior. Since then, sequential recommendation has become one of the most studied recommendation tasks and embedding based models are now the de facto standard for this task. In our paper we also introduced the task of next basket recommendation where not just a sequence of items is observed, but a sequence of sets of items (baskets). Also for this task many further models have been proposed subsequently."

About the Seoul Test of Time Award

Inaugurated in 2014, the Seoul Test of Time Award is made possible by the generous contribution of the organisers of WWW2014 held in Seoul, South Korea, in May 2014. It is awarded annually to the author or authors of a paper presented at a previous World Wide Web conference that has, as the name suggests, stood the test of time.

The first Award, presented at WWW2015 in Florence, was made to Google founders Sergey Brin and Larry Page, for their world-changing paper “The Anatomy of a Large-Scale Hypertextual Web Search Engine,” originally presented at the World Wide Web Conference in Brisbane in 1998.

About The Web Conference

Since its first event, in 1994 at CERN, The Web Conference (formerly the World Wide Web or WWW Conference) has provided scientists, researchers, policy makers, activists and technology industry leaders with the forum to discuss the evolution of Web and its impact on business, culture and society. From 1994 the conference was organized each year by a local team of volunteers in different parts of the world in collaboration with the International World Wide Web Conference Committee (IW3C2) which managed the conference series.

In 2022 IW3C2 handed over the management of The Web Conference series to the Association of Computing Machinery (ACM) and it became a full ACM conference. The IW3C2 continues to exist to manage the Seoul Test of Time award but it will no longer be responsible for managing conferences.

About ACM

ACM, [the Association for Computing Machinery](#), is the world’s largest educational and scientific computing society, uniting computing educators, researchers, and professionals to inspire dialogue, share resources, and address the field’s challenges. ACM strengthens the computing profession’s collective voice through strong leadership, promotion of the highest standards, and recognition of technical excellence. ACM supports the professional growth of its members by providing opportunities for life-long learning, career development, and professional networking.