

# Bootstrapping a Destination Recommender System

Neal Lathia  
Skyscanner Ltd.  
London, United Kingdom  
neal.lathia@skyscanner.net

## ABSTRACT

Across different web services, we hear about recommendation systems that help users tackle information overload. Travel is different: the world does not have millions of cities, but finding new, interesting places to inspire people to travel is still a challenge. What are the factors that make traveling to destinations appealing, and how do those factors change based on your origin? What data, algorithms, and interactions do we need to surface destinations as recommendations? Moreover, how can a recommender system be built in a domain where typical users will book a flight, anonymously, less than a handful of times per year?

Years ago, Skyscanner<sup>1</sup> started its 'everywhere' search, allowing users to find the cheapest countries to travel to. This feature evolved into an 'inspiration feed,' a stream of destinations, again ordered by price. However, price is just one of many factors that can make a place attractive. In this talk, I'll discuss how we've bootstrapped a destination recommender system to augment Skyscanner's destination feeds with wisdom-of-the-crowd recommendations, and give an overview of experiments that gauge how localised and personalised recommendations affects user engagement in different parts of the Android and iOS apps.

There are a variety of challenges that we had to tackle in this domain, ranging from data sourcing, sampling, and segmenting, to metric and algorithm selection, and building a pipeline that could facilitate rapid online and offline experimentation. We now have a system that uses the rich implicit data generated by Skyscanner's millions of users alongside a set of diverse algorithmic approaches to compute destination recommendations. Experimental features that use this pipeline are also collecting unique interaction data that is being analysed to further personalise users' recommendations. This talk will give an overview of the journey so far and some potential future directions and research challenges for recommendation in the travel domain.

**Bio.** Dr Neal Lathia is a Senior Data Scientist in Skyscanner's London office. Prior to that, he was a Senior Research Associate in the Computer Laboratory, University of Cambridge and a postdoctoral researcher at University College London. Neal has a PhD in recommender systems from the Department of Computer Science, University College London.

<sup>1</sup><http://www.skyscanner.net>

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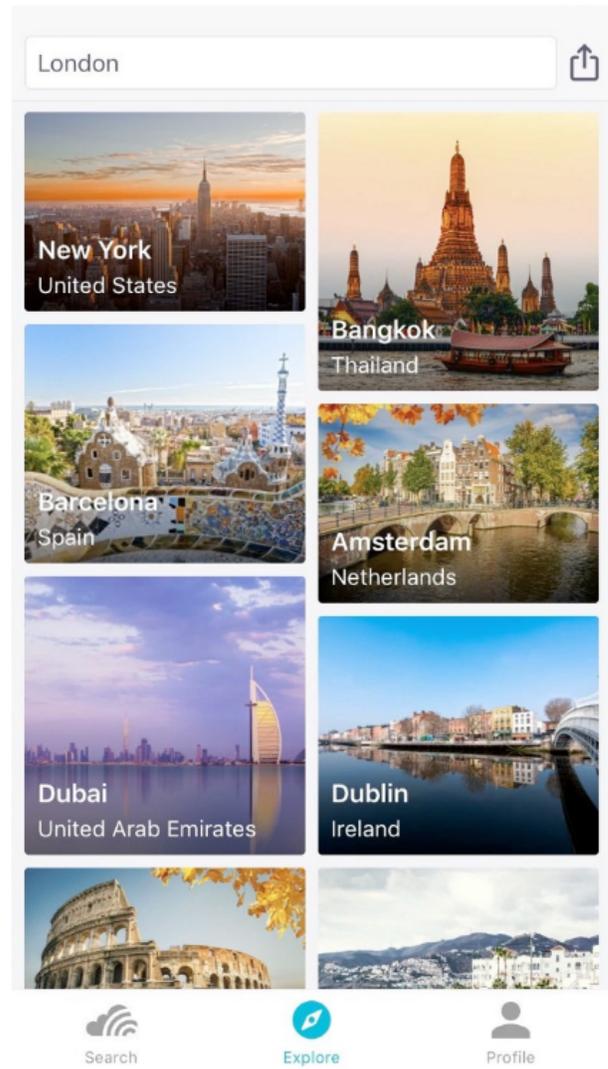


Figure 1: Recommended destinations from London in the Skyscanner iOS app.

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