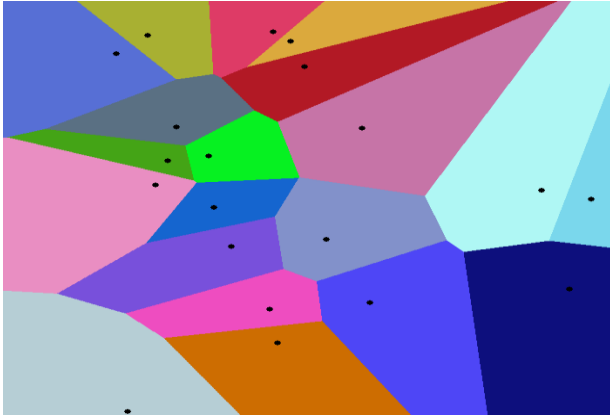


**29 января**  
**четверг**

# Коллоквиум факультета компьютерных наук НИУ ВШЭ



**Ilya Razenshteyn**

Massachusetts Institute of Technology

## **Approximate Nearest Neighbor Search: Beyond Locality-Sensitive Hashing**

In the Approximate Nearest Neighbor problem (ANN), we are given a set  $P$  of  $n$  points in a  $d$ -dimensional space, and the goal is to build a data structure that, given a query point  $q$ , reports any point from  $P$  that is approximately closest to  $q$ .

Locality-Sensitive Hashing (LSH) is by now a standard technique for solving the ANN problem. In my talk I will define LSH and show several constructions of good hash families. Then I will state some limitations of LSH and describe a recent line of research that provides data structures for ANN that are provably (substantially) better than what LSH could possibly give.

The talk is partially based on a joint work with Alexandr Andoni (Simons Institute, previously Microsoft Research Silicon Valley). See [http://www.ilyaraz.org/optimal\\_lsh.pdf](http://www.ilyaraz.org/optimal_lsh.pdf) for the paper.

29 января, 16:40 – 18:00

Адрес: Кочновский проезд, дом 3, 3 этаж

Лекционный зал Декарт

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