

# Choice Modeling for Urban/Regional Planning

Understanding *human choice behaviors* is essential for urban/regional planning, as well as the evaluation of such plans. In this theme, we engage in hands-on practice to learn choice modeling and estimation methods using data.

Time: First class is on 16:20-17:50 Oct.3 (Tue.)

Place: Building of civil engineering and architecture, 2<sup>nd</sup> floor, Room 204.

Teacher: Junya Fukumoto (Graduate School of Information Sciences, Assoc. Prof.)

Contents:

1. Each group will select a familiar choice behavior to explore.
2. To estimate choice behaviors, collect necessary data through a web survey.
3. Analyze collected data, estimate models, and predict the effects of some policies.

Note:

- Required to take “Linear algebra A” and “Information Basics A” at the first semester.
- Do simple programming, but no prerequisite programming skills are required.
- At first, the teacher gives a lecture. Then repeat the process of presentation by students and feedback from the teacher.

Appealing points:

- Can learn how linear algebra is used in various ranking systems such as Google search engine.
- Can learn techniques applicable to your interests, such as ranking of football clubs, movies etc.



$$\Pr\{\text{mode } i\} = \frac{\exp(V_i)}{\sum \exp(V_k)}$$