

Research Plan

Research Summary

Compared to general expressions, spatial expressions in architectural languages are diverse, delicate, polysemic, and dense. In my doctoral research, I want to focus on the architectural languages' unique figurative expressions that describe architectural space and compare and analyze them with general expressions. By quantitatively analyzing the **delicacy** of spatial expressions and confirming the degree of deviation from and paraphrasing of general expressions, I aim to contribute to the quantitative evaluation of architectural works.

Research Methods

In this study, 30 images of architectural interiors and descriptive words and phrases were extracted from descriptions of works by architects and magazine editors published in a certain architectural magazine and were selected for analysis.

The deviation from common expressions was surveyed by crowdsourcing questionnaires to more than 300 respondents who are not involved in the architectural industry. Respondents' language proficiency will be defined as C1 or higher on the CEFR for English. The survey procedure is as follows

- (1) Show the images of the artworks.
- (2) Ask the respondents to select the degree to which some of the displayed words or phrases apply to the impression they get from the images of the works.
- (3) If there are any appropriate expressions other than the displayed words and phrases, the respondents were asked to respond freely (within 10 words) and to indicate the degree to which they apply to them.
- (4) Repeat this process for 10 images per person.
- (5) Analyze the correlation between the words and phrases from the questionnaire results to check the degree of deviation and replaceable expressions.

Outlook

I'm concerned about the possibility of fluctuation due to individual differences in the results of human questionnaires alone. Image generation AI such as 'midjourney', which has recently become popular, has learned from a vast number of architectural works, and I believe it can be a very effective tool for investigating the relationship

between architectural images and linguistic expressions in a consistent manner. However, the tool may be "architecture-neighborhood-oriented" or "general-oriented" depending on what kind of teacher data is used to learn architectural linguistic expressions. So before using the tool, I need to consider the way of survey depending on it.