Best Fit, Most Beautiful: Explore the Relationship between Glasses and Facial Features

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Different people suit best in different glasses. In order to allow more people to get best fit glasses with less money in less time, this project explores the mathematical relationship between glasses and facial features. With a selection of 20 oriental adult faces and 9 standard glasses, the study uses surveys to collect choices of best glasses for each face from different groups of people, and finds out that glasses preference is related to age, job, and education level, but not related to gender and area. After extracting features of faces according to “three courts and five eyes” and features of glasses, the study combines glasses data with data of aesthetic preferences from the survey, using weighted best fit method. In the end, through stepwise selection, the study selects facial features and personal characteristics as predictors for each glasses feature and builds multiple linear regression models. By applying this math model, just entering data of faces and personal characteristics, a person can get all data from which a model of the best fit glasses can be produced. Combined with 3D printing, this program can push forward the area of custom-made glasses.

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