**Udacity Kairos Augmentation**

This 2-pager summarily describes what was done, why it was done, and what I found. What was found takes the form of 5+ talking points.

**I. What Was Done**

Udacity scrape data was augmented using Kairos face recognition technology[[1]](#footnote-1). Kairos was used to identify age, gender, and ethnicity. Kairos is free for limited use, making its use compatible with easy replication.

**II. Why it Was Done**

Generally, sociological factors including gender, ethnicity, and age are standard controls which correlate and explain swaths of economic observations. Specifically, the alternative credential research to date has shown gender to be a significant factor[[2]](#footnote-2), but Udacity scrape data does not specify gender. Moreover, Udacity scrape data uses a rough estimation of age which is expected to be inaccurate compared to the machine learning-driven age estimate provided by Kairos.

This reanalysis of the Udacity scrape study should be considered a significant robustness check, and it obtain superior effect coefficients and model explanation through the reduction of omitted variable bias and the introduction of new data.

**III. What I Found**

1. Most Udacity users provided a profile picture. About 7% of pictures provided were unable to be processed by Kairos due to low quality or other reasons. While this study is limited to use with data provided directly on the Udacity platform, profiles often linked to other websites from which even more images could be obtained. Such websites include LinkedIn, Twitter, and GitHub accounts, as well as personal websites.
2. The long linear regression obtained an r2 of .73, and the long logit regression obtained a pseudo-r2 of 1, both significantly improving over the models lacking Kairos data.
3. Rough age is far more accurate than Kairos age. See exploratory7-10 and d1longkairos.

1. See <http://kairos.com/about> [↑](#footnote-ref-1)
2. See 2-pager-survey-monkey-1-off.docx at <https://github.com/Vandivier/data-science-practice/tree/master/stata/udacity-exploratory-analysis/manually-scraped> [↑](#footnote-ref-2)