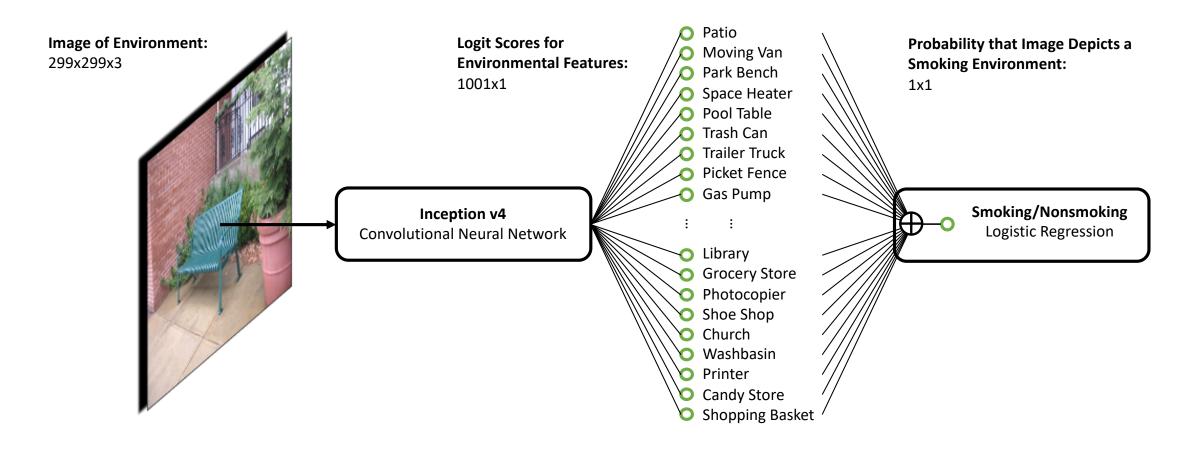
## Envirotyping Case Study

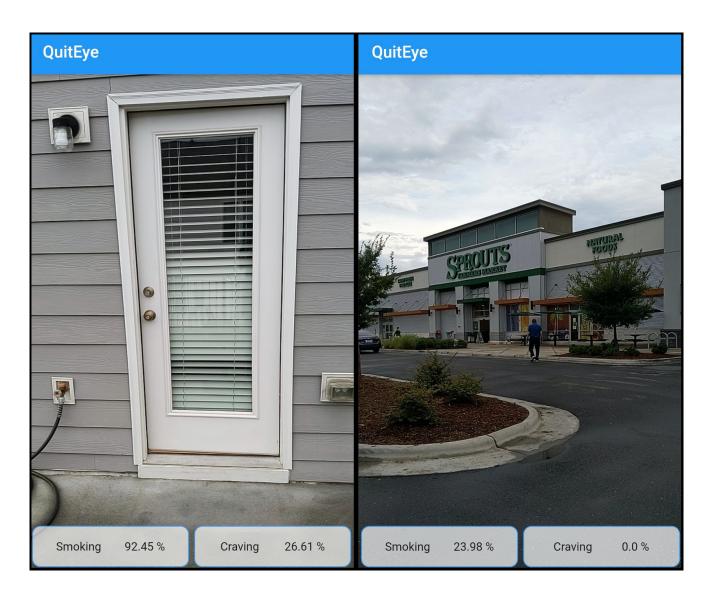
MMCi Block 3
Matthew Engelhard

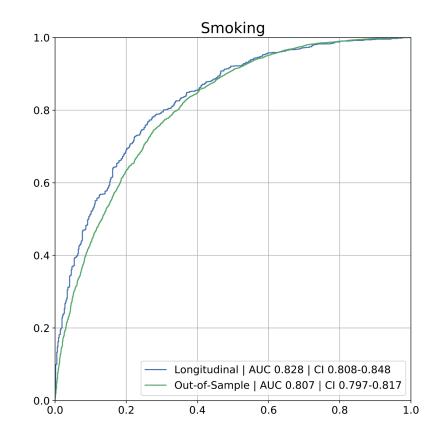
## Smoking Environments have distinctive characteristics that can be identified using machine learning



Engelhard MM, Oliver JA, Henao R, Hallyburton M, Carin LE, Conklin CA, McClernon FJ. Identifying Smoking Environments From Images of Daily Life With Deep Learning. *JAMA Netw Open.* 2019;2(8):e197939.

## These characteristics can be used to predict environment-associated smoking risk in real time





Engelhard MM, D'Arcy J, Oliver JA, Kozink K, McClernon FJ. Machine Learning Prediction of Smoking Risk from Repeated Sampling of Environmental Images. *Submitted to JMIR*