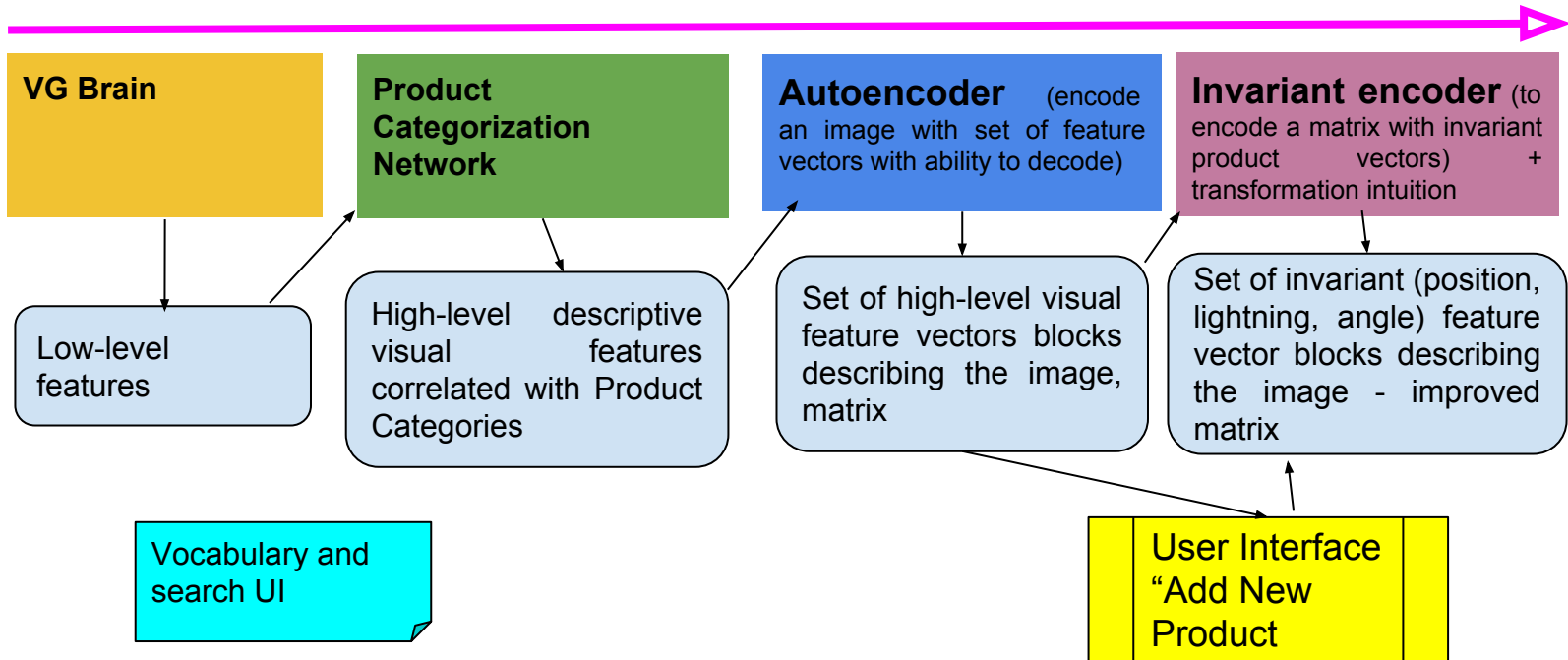# Product Detector model - logical diagram

Question: is my Product here? If true, where is it on picture and how does it look like?

Feature Extractor

Direction of the abstraction level increase for feature vectors

VG Brain

Product Categorization Network

Autoencoder (encode an image with set of feature vectors with ability to decode)

Invariant encoder (to encode a matrix with invariant product vectors) + transformation intuition

Low-level features

High-level descriptive visual features correlated with Product Categories

Set of high-level visual feature vectors blocks describing the image, matrix

Set of invariant (position, lightning, angle) feature vector blocks describing the image - improved matrix

Vocabulary and search UI

User Interface "Add New Product

Feature Descriptor

Macro-block annotator

"Bounding box" predictor

Annotations proposal (list of possible products w/confidence level per block)

Region proposal (where the box would fit best in the picture, coordinates with what %)

ANSWER