

# Fatching

**: Fashion Matching Service**

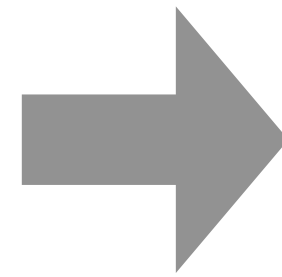
Team [cookieNcream]

Hankyu Kim, Bomin Namkoong, Juwon Seo, Kyunghyun Cho, Jaehyuk Choi

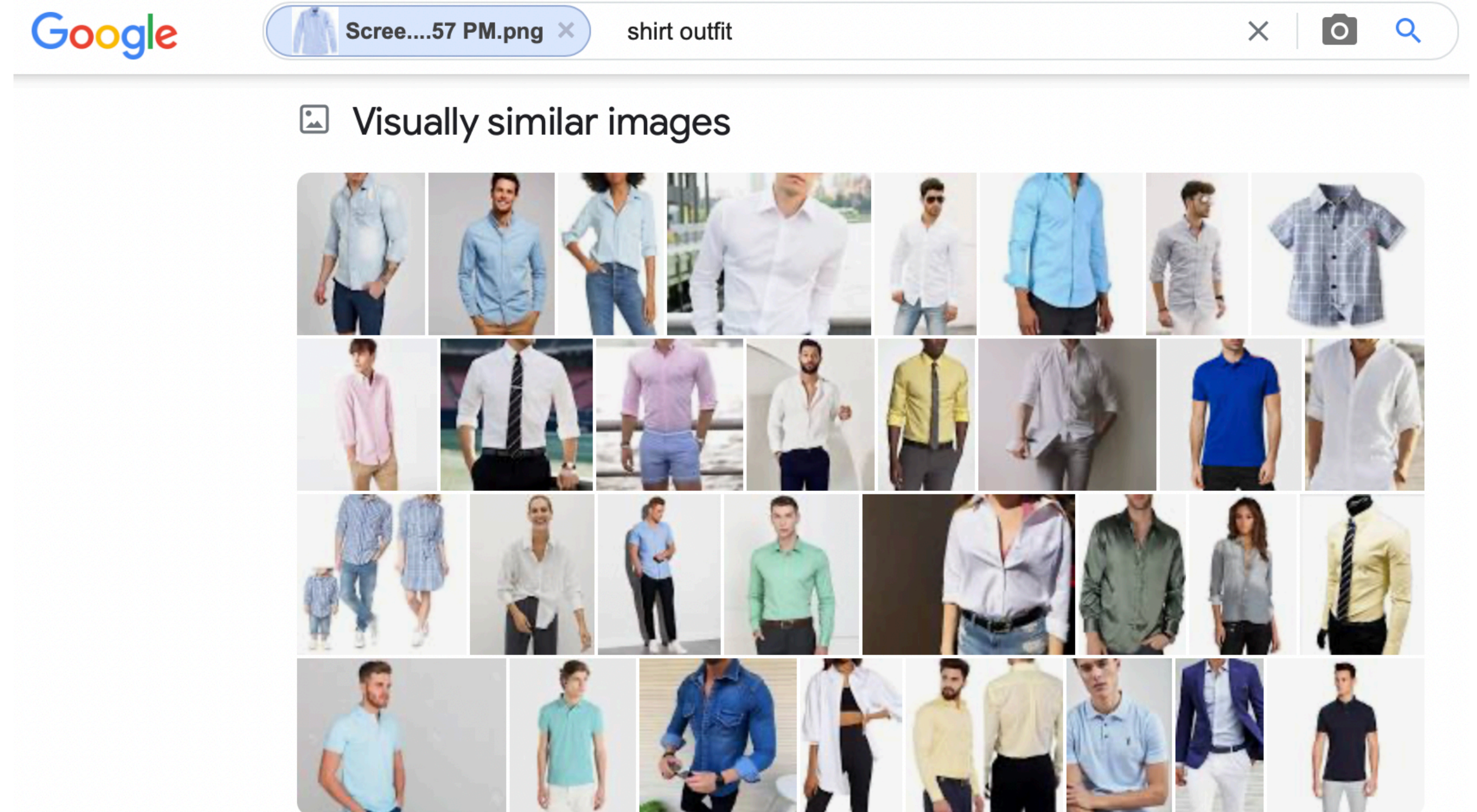
# Background



+ 'Shirt outfit'



Search on google  
with picture and keyword



Too many unrefined results

How could I find the best outfit with the item I have?



# Related Work

## | Fashion Recommendation Systems, Models and Methods: A Review

Samit Chakraborty, Md. Saiful Hoque (2021 July 26), MDPI

Recommendation System	References	Features and Implementation
Fashion pairing recommendation system	[4,10,15,22,36,45–49,109–124]	<ul style="list-style-type: none"><li>Adoption of this system helps in the representation of different style genres based on the knowledge of fashion coordination and image recognition.</li><li>Implementation of this approach combines both visual and textual information to express a knowledge-based fashion coordination system and use image detection technology for extracting fashion styles with similar features.</li><li>It can recommend design scheme via a searching method using genetic algorithms (GA) and artificial neural networks.</li></ul>
Smart or intelligent recommendation	[33,39–44,50,74,88,89,112,123,125–137]	<ul style="list-style-type: none"><li>Its domain expertise knowledge of mixing and matching criteria facilitates exploring the interrelationship between the fashion and the user using intelligent algorithms.</li><li>Use of decision tree, analytical hierarchy process, sensory engineering, fuzzy mathematics, genetic algorithms, neural networks and support vector machines to learn the skill of clothing attribute evaluation.</li><li>Implementation of expert rules to propose an intelligent fashion recommendation system of expert information collection based on eye gaze tracking and the application of interactive evolutionary algorithms to predict users’ style preferences.</li></ul>
Social-network-based recommendation	[7,8,31,43,92,133,138–152]	<ul style="list-style-type: none"><li>Personalized clothing recommendation built using three types of data: (1) user social circles that show the relationships among users; (2) user clothing records that indicate the interest and preferences of users for certain fashion items; and (3) matching of pairs of fashion items that represent style consistency among different items.</li><li>Combination with wardrobe recommendations provides more information about users to retailers, which can create an interactive online shopping experience.</li><li>Peer recommendations functioning through social shopping sites can increase the accuracy of predictions based on the sharing of lifestyles or experiences with friends, family members and colleagues, who understand the users.</li></ul>

Algorithm/Model	Recommendation System Used	Performance
Convolutional Neural Networks (CNN)	<ul style="list-style-type: none"><li>Guan, et al. and Liu, et al. used CNN to develop content-based filtering technique [10,168].</li><li>The recommendation system showed weather-oriented clothing pairing results as output based on the image attributes.</li></ul>	The proposed CNN model achieved a maximum of Normalized Discounted Cumulative Gain (NDCG) ranking score of 0.50, which outperformed support vector machine (SVM), because SVM achieved an NDCG score of 0.45.
Recurrent Neural Network (RNN)	<ul style="list-style-type: none"><li>Heinz et al. used RNN to build a recommendation system utilizing dynamic collaborative filtering technique [50].</li><li>The RNN-based recommendation system recognized individual style preferences from a modest number of purchases by combining sales events.</li></ul>	The proposed RNN model achieved a higher AUC value of 88.5% compared to the AUC value of 80.2% achieved by a popularity ranking baseline approach.
Multilayer Perceptron (MLP)	<ul style="list-style-type: none"><li>Alashkar et al. used MLP to build a fully automatic makeup recommendation system utilizing content-based filtering techniques [164].</li><li>The model recommended homogeneous makeup style according to its automatically classified facial traits and synthesized the makeup style as well.</li></ul>	The proposed MLP model achieved a minimal squared loss function value, which was 48% lower than distance-based similarity recommendation model.

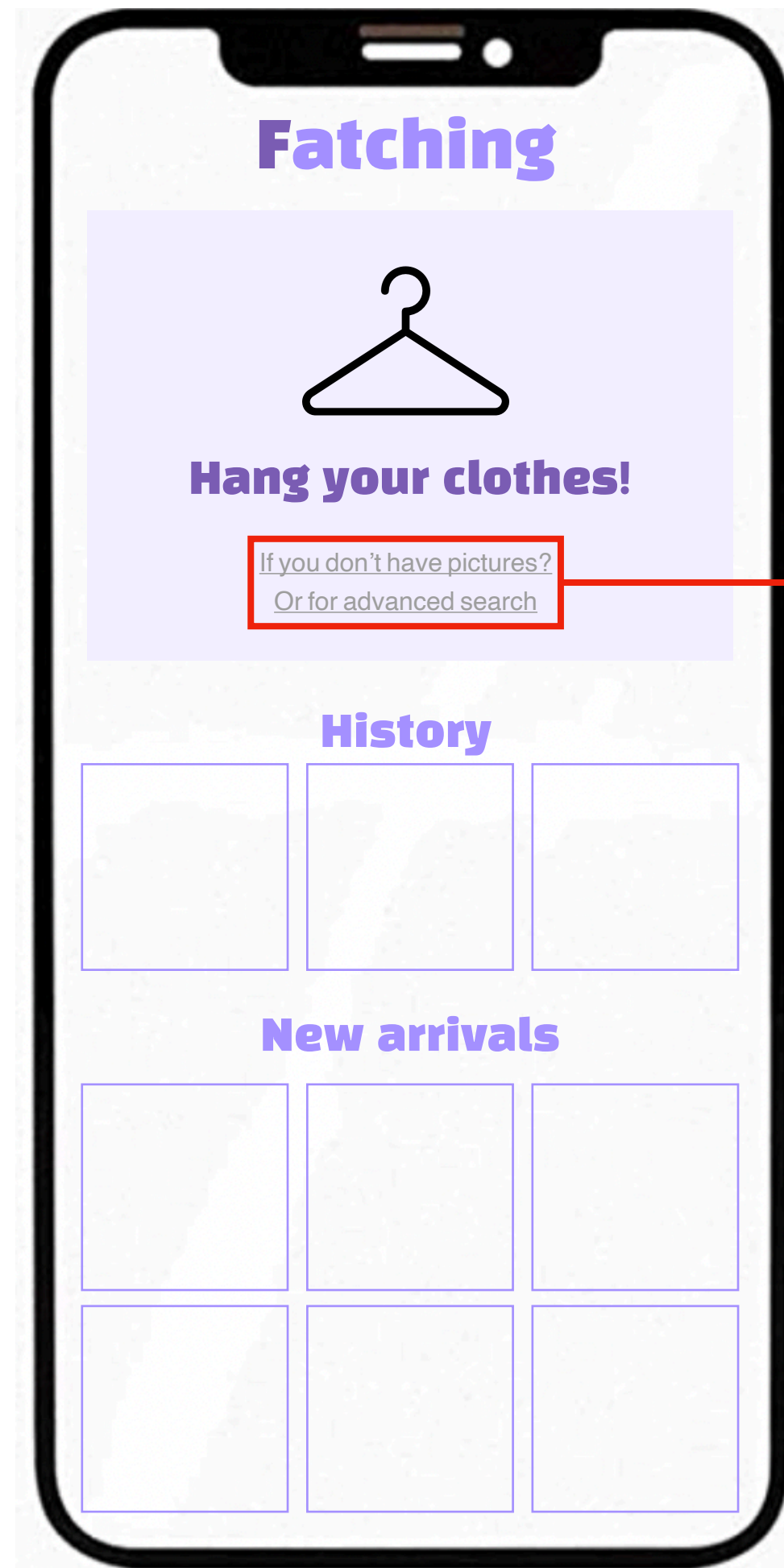
< Popular algorithmic models  
used in fashion recommendation systems >

< Classification of Fashion Recommendation System >

# Fatching

: Fashion Matching Service

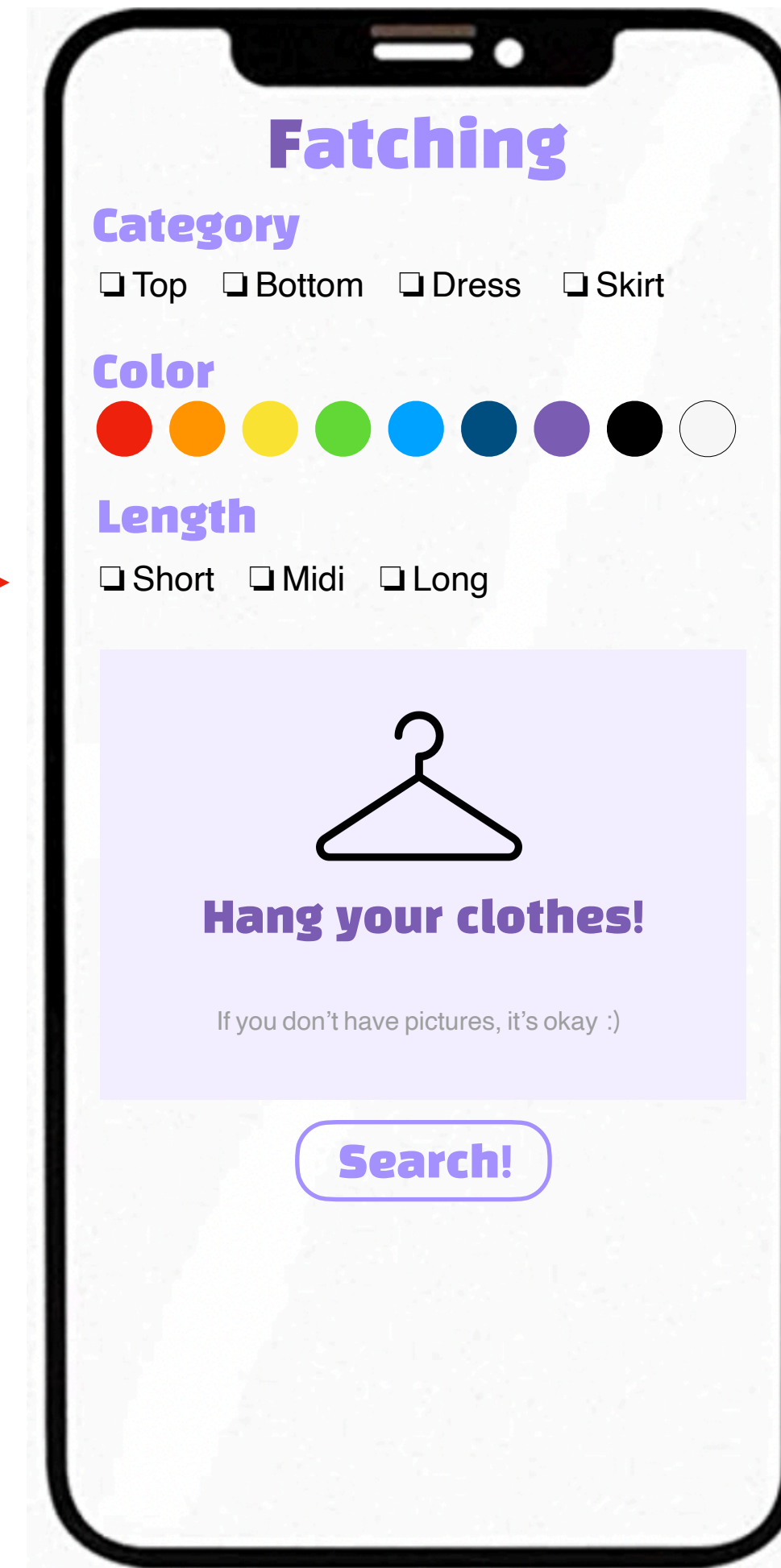
Select a photo from gallery ←



Previous search history ←

Product recommendation ←

< Main Page >

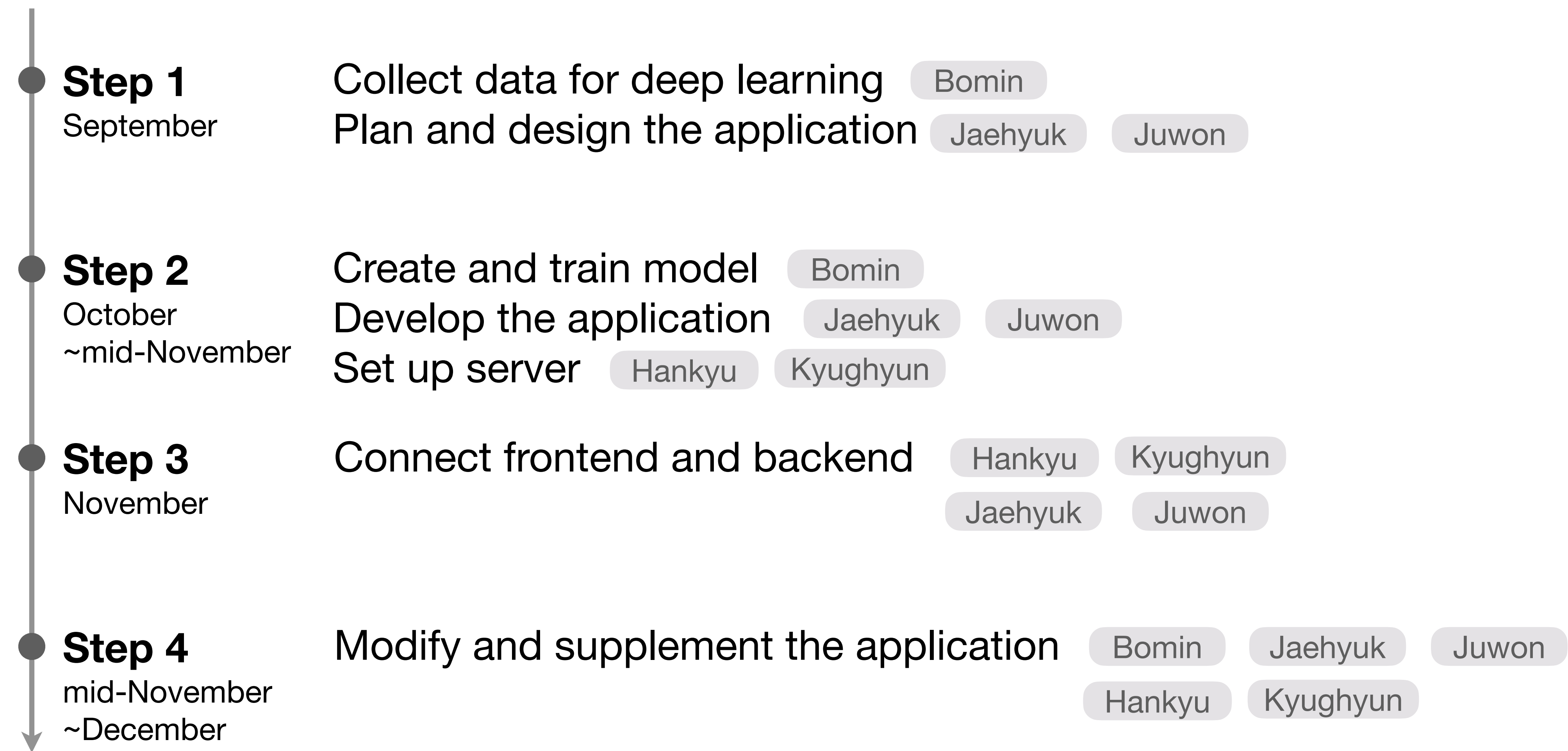


→ Select options

→ Attach a photo (not required)

< Advanced Search >

# Planning in details





**THANK YOU**