



Asnapp

At-home workouts, personalized.

● PRESENTERS



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Repository URL: https://github.com/amandashu/Workout_Recommender

Website : <https://workout-recommender.herokuapp.com/>



Asnapp

- PRESENTATION OUTLINE

- WHAT IS Asnapp?

- DATA

- MODELS/EVALUATION

- WEB APPLICATION



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MOTIVATION

Problem: it is difficult to find workout videos for your at-home workout routine

- Need to meet your fitness needs
- Time/equipment constraints
- Too many workout videos online to choose from



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Solution: Asnapp is a web application that provides personalized recommendations of workout videos by Fitness Blender*.

*Fitness Blender (<https://www.fitnessblender.com/>) is a company that provides free workout videos.



Asnapp

● OVERVIEW OF Asnapp

Register an account and tell us your available equipment and workout preferences

1

Browse your recommendations lists. (your preferences are taken into account)

3

Update your available equipment and workout preferences anytime!

5

Choose between three recommenders to generate your recommendations

2

Start a workout! Like or dislike a workout for more personalized future recommendations

4

Get Fit!

6



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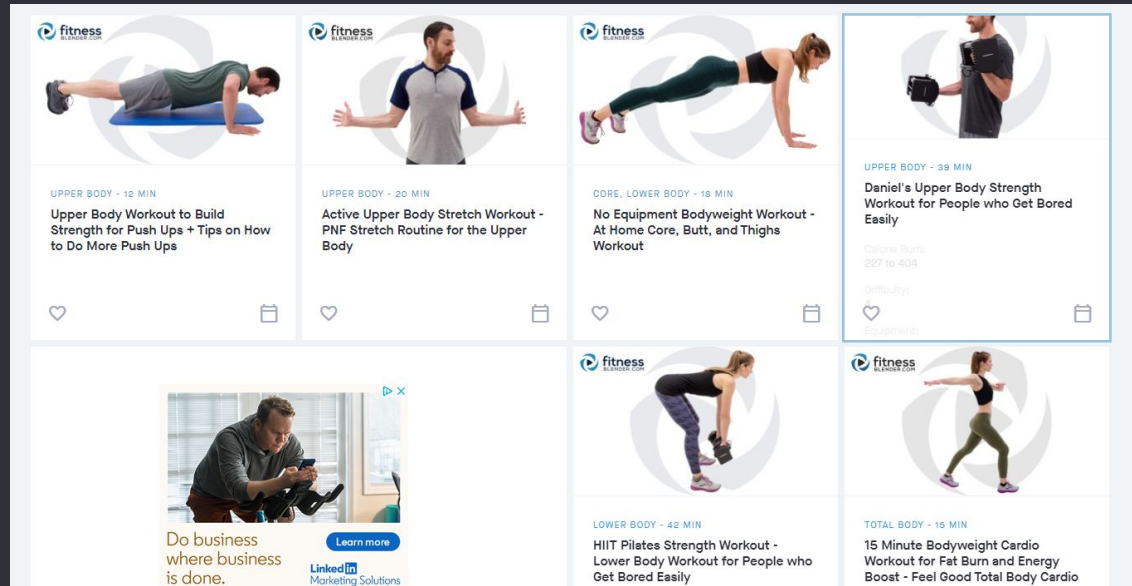
- WEB APPLICATION



Asnapp

DATA COLLECTION

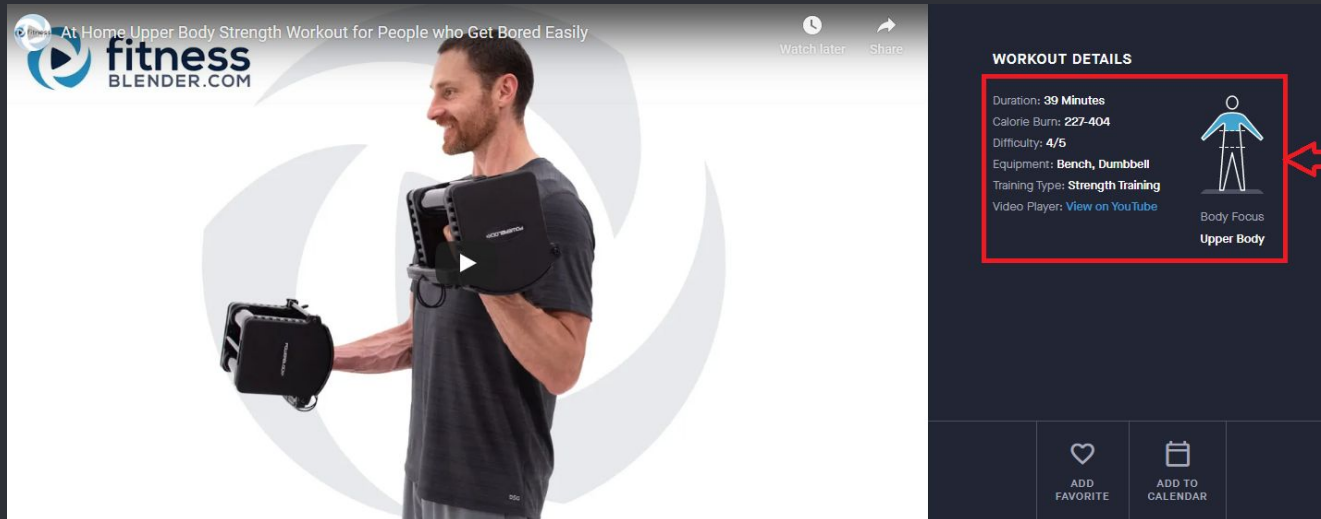
- Source: Fitness Blender website
- Go through each individual workout page and scrape data



DATA COLLECTION (CONTINUED)

1. Workout attributes

- duration, calories, body focus, equipment, etc
- Used for displaying workouts on our site and for filtering to user preferences



The screenshot displays a fitness video player interface. The main video area shows a man performing a workout with a device. The video title is "At Home Upper Body Strength Workout for People who Get Bored Easily" and the logo "fitness BLENDER.COM" is visible. To the right of the video, there are "Watch later" and "Share" buttons. Below the video, a sidebar titled "WORKOUT DETAILS" is shown. This sidebar contains the following information: Duration: 39 Minutes, Calorie Burn: 227-404, Difficulty: 4/5, Equipment: Bench, Dumbbell, Training Type: Strength Training, and Video Player: View on YouTube. A red box highlights the "WORKOUT DETAILS" section, and a red arrow points to it from the right. Below the details, there is a body focus diagram showing the upper body highlighted in blue, with the text "Body Focus Upper Body". At the bottom of the sidebar, there are two buttons: "ADD FAVORITE" and "ADD TO CALENDAR".

At Home Upper Body Strength Workout for People who Get Bored Easily

fitness BLENDER.COM

Watch later Share

WORKOUT DETAILS

Duration: 39 Minutes
Calorie Burn: 227-404
Difficulty: 4/5
Equipment: Bench, Dumbbell
Training Type: Strength Training
Video Player: View on YouTube

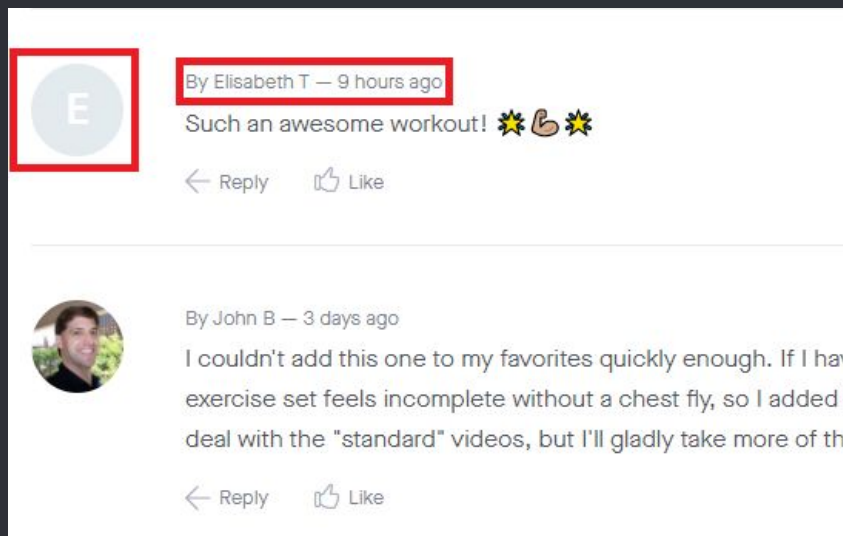
Body Focus
Upper Body

ADD FAVORITE ADD TO CALENDAR

DATA COLLECTION (CONTINUED)

2. Comments

- Gathered which workouts people commented on
- Used to proxy user-item interaction data as input to models



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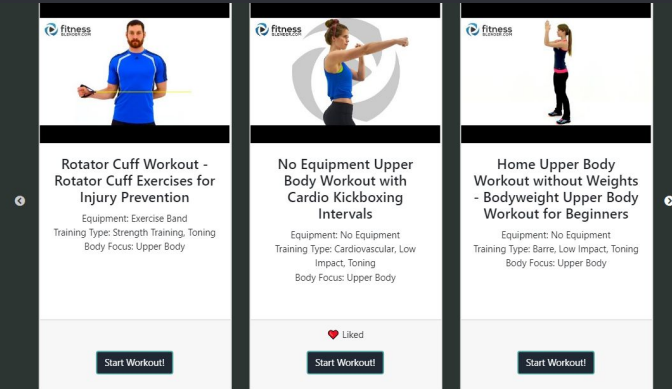
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THE RECOMMENDATION PROBLEM

Aim: display top n ranked recommended workouts on website

1. A model assigns each workout a score
 - how scores are calculated depends on the model
 - higher score = more relevant
2. Sort workouts by score (desc) to output ranked recommendations

Our workout video recommendations, with highest ranked recommendations from left to right



● THREE RECOMMENDATION MODELS

○ Random

Recommends workouts randomly

Top Popular

Recommends the most popular workouts, based on the number of interactions for each workout

Collaborative Filtering

LightFM's pure model, which is a traditional collaborative filtering matrix factorization method.

*LightFM (<https://making.lyst.com/lightfm/docs/home.html>) is a Python package containing implementations of recommendation algorithms.



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● HOW DO WE EVALUATE OUR RECOMMENDERS?



- NDCG (normalized discounted cumulative gain) is a metric to measure ranking quality
- Higher NDCG = better recommendations



- RESULTS

	NDCG@20
RANDOM	0.017
TOP POPULAR	0.099
LIGHTFM	0.098

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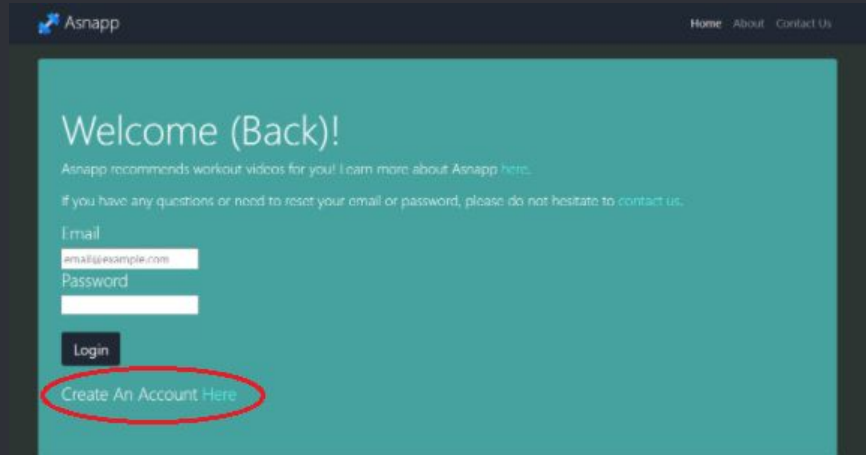
● TECH STACK FOR WEB APPLICATION

- Backend: Flask
- Frontend: HTML, CSS, Bootstrap
- Data location: MySQL database with AWS RDS
- Website deployment: Heroku



FEATURES: REGISTRATION

- Name, email, encrypted password for login
- Users fill out:
 - available equipment
 - workout preferences (i.e. preferred duration, calorie burn, etc.)
- All user info stored in our database



The screenshot shows the Asnapp website's login and registration interface. At the top, there is a dark blue header with the Asnapp logo on the left and navigation links for Home, About, and Contact Us on the right. The main content area has a teal background. It features a 'Welcome (Back)!' heading, followed by a recommendation for workout videos and a link to learn more. Below this is a note about contacting support. The login section includes input fields for Email (with the placeholder 'email@example.com') and Password, and a dark blue 'Login' button. A red circle highlights the 'Create An Account Here' link located below the login button.

Asnapp

Home About Contact Us

Welcome (Back)!

Asnapp recommends workout videos for you! Learn more about Asnapp [here](#).

If you have any questions or need to reset your email or password, please do not hesitate to [contact us](#).

Email

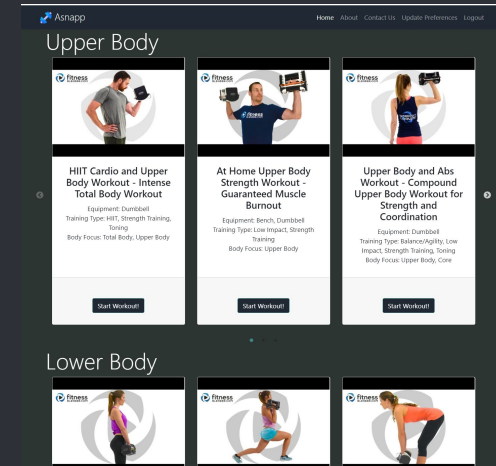
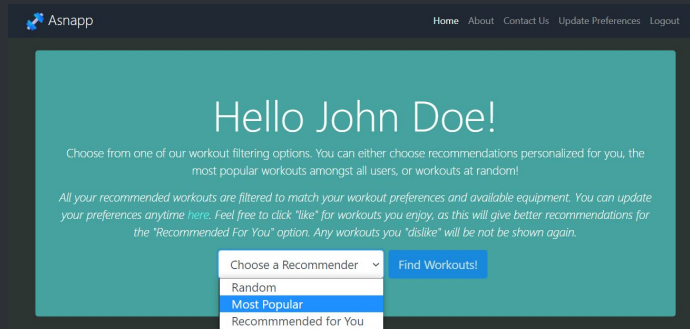
Password

Login

[Create An Account Here](#)

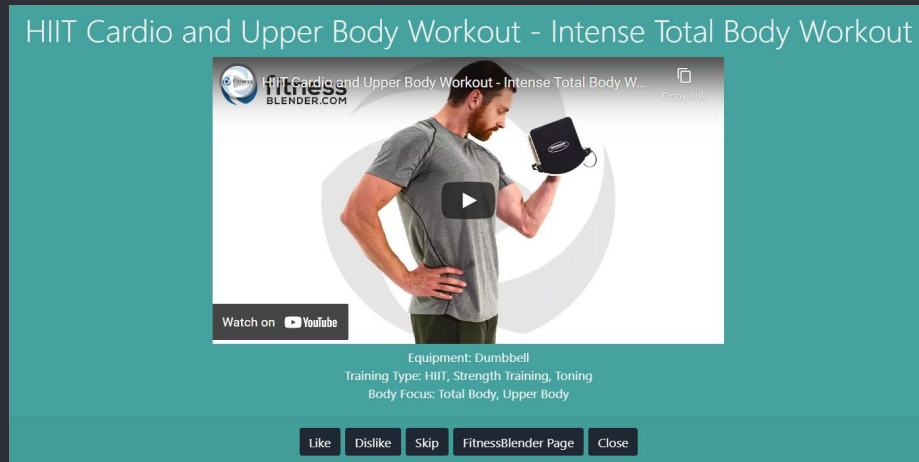
FEATURES: RECOMMENDATIONS

- Use dropdown to choose a recommender
- We filter workouts to fit user's preferences/available equipment
 - i.e. only workouts within their preference duration, use equipment they have, etc..
 - Can update preferences/equipment anytime
- Workouts are displayed by body focus



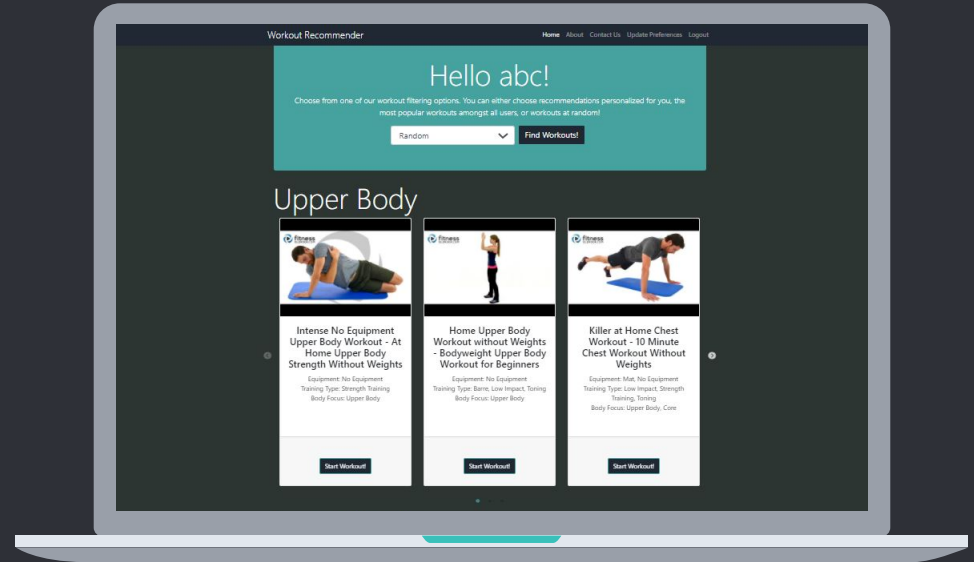
FEATURES: RECOMMENDATIONS (CONTINUED)

- Click on a workout to get a popup
 - Shows embedded youtube video, link to Fitness Blender site, etc
 - Can like/dislike workouts for more personalization
- Can also view history of liked/disliked workout



Live Demo

<https://workout-recommender.herokuapp.com/>



● FURTHER IMPROVEMENTS

- Performance of models offline vs deployed may not be the same
- Users might prefer certain models over others
- Adding other models i.e content-based



● CONCLUSION

We hope that Asnapp is able to provide people with an easy and engaging way to get workout recommendations and build their at-home workout routines.



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- **Thank you for listening!**

Any questions?



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