dripdrop

Team 25

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1. Project Overview

2. Mobile App

3. Infrastructure Design

4. AI Model

5. Backend Design

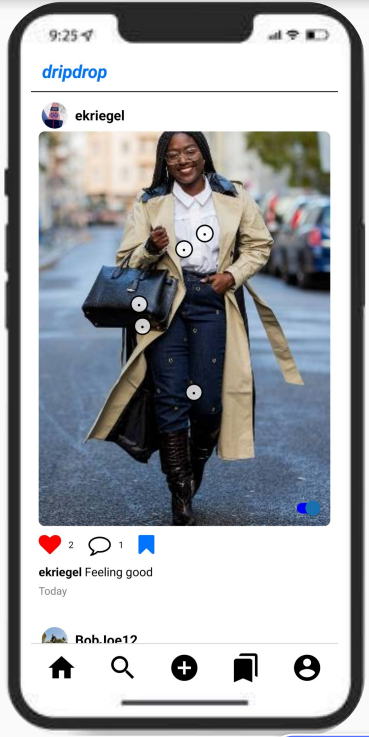
6. Testing & Security

7. Conclusion

Project Overview

What is *dripdrop*?

- *dripdrop* is a social media platform exclusively for outfit sharing
- Bridges the gap between fashion inspiration & budget alternatives



Our Vision

1. **AI** Suggestions & Clothing Identification
    a. **AI-powered** similar outfit recommendations
    b. Clothing identification via **image processing**
2. Outfit Sharing
    a. Curate your style by liking, commenting, saving, and following
3. Powered by AWS
    a. Fast and scalable hosting service to support high traffic

Requirements

Functional Requirements

- User Account Management
- Outfit Sharing
- Interactive Posts
  - Like, comment, & view markers
- Add Product Descriptions to Posts
- Search for Users & Posts
- **AI-Based** Clothing Recommendations

Non-Functional Requirements

Performance	< 500 ms response time
Security	Users must be 13+ API calls only be verified users
Scalability	1,000 concurrent sessions
Usability	Simple & intuitive navigation

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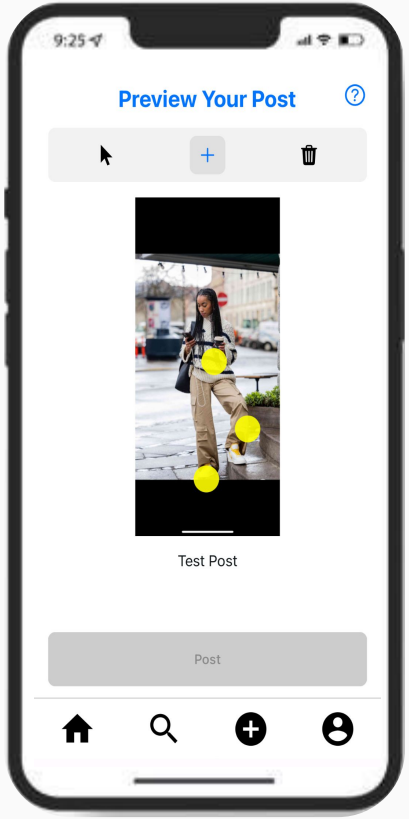
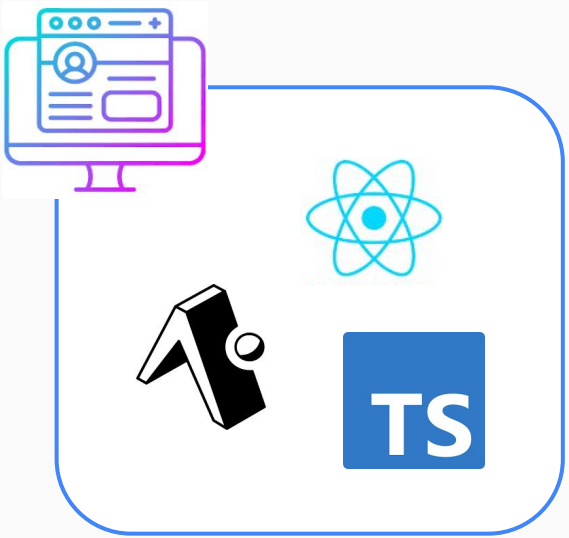
Frontend Technologies



Built with React Native and Expo platforms

Written in Typescript



Mobile App Demo

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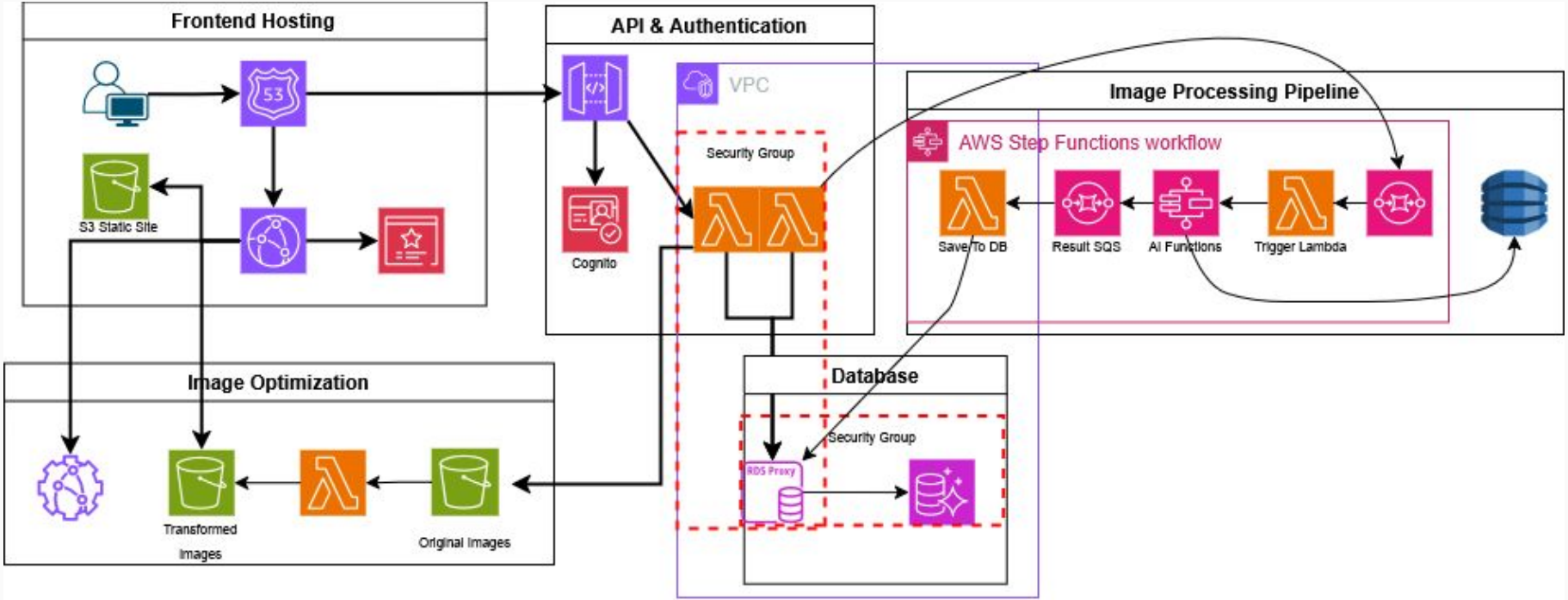
Infrastructure



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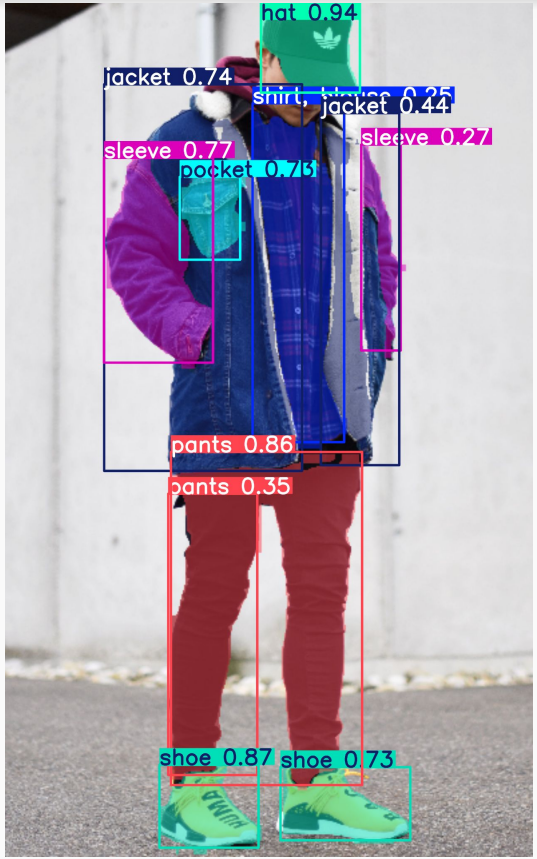
AI



Classification Lambdas

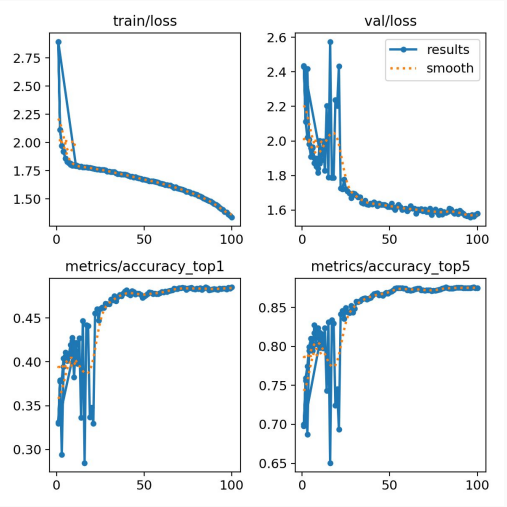
- YOLOv11 classification model
- Adds attributes on segmented clothing items

Segmentation Lambda

- Uses YOLOv11 segmentation model
- Detects clothing items, masks, and bounding boxes

Training

- Trained on the Fashionpedia dataset
- Used Nova computer



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Database

MySQL Database

Relational Database

Familiarity

AWS compatibility

Amazon Aurora

Performance

Scalability

Security

Lambda Functions

Serverless

Pay-as-you-go

57 Lambda Functions

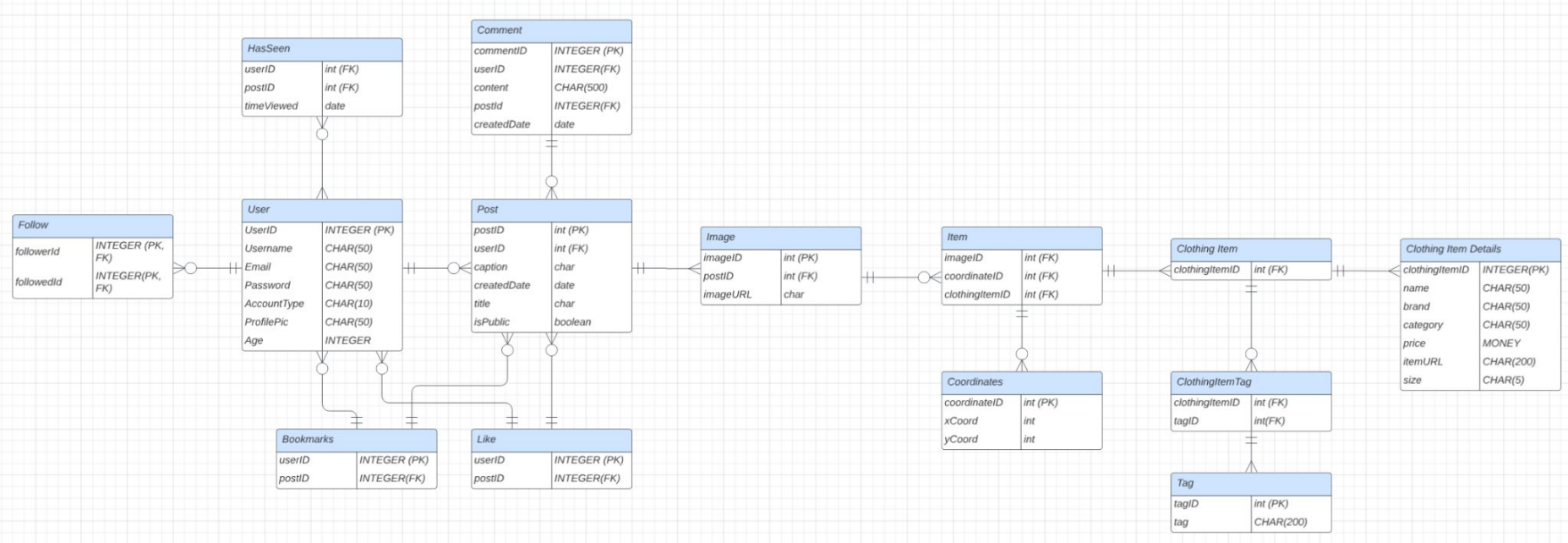
SQLAlchemy

Object Relational Mapping

Python Programming

No raw SQL statements

ER Diagram


HasSeen
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postID int (FK)
timeViewed date
Comment
commentID INTEGER (PK)
userID INTEGER(FK)
content CHAR(500)
postId INTEGER(FK)
createdDate date
Follow
followerId INTEGER (PK, FK)
followedId INTEGER(PK, FK)
User
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Clothing Item Details
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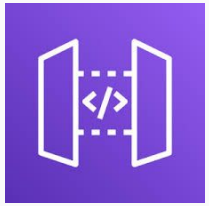
postID INTEGER(FK)
Like
userID INTEGER (PK)
postID INTEGER(FK)

API



Amazon API Gateway

Fully Managed API Service

Lambda Integration

Pay-as-you-go

Typescript CDK Code

Easily add/remove endpoints

Deploy changes in minutes

API Structure

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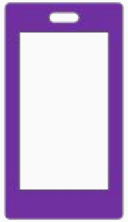
Testing

Integration Testing

- ❏ Pytest Library
- ❏ Integrates with Cognito
- ❏ Tests API Health
- ❏ Checks Database
- ❏ Lambda Code



Frontend Testing

- ❏ Jest library (typescript)
- ❏ Mocks backend data
- ❏ Simulates frontend actions
- ❏ Validates frontend flow

User Testing

- ❏ Team members
- ❏ Friends & Roommates
- ❏ Bug Detection
- ❏ Usability

Security

Frontend

- ❏ Age Verification
- ❏ Email Validation
- ❏ Password Hiding

Backend

- ❏ Password Encryption
- ❏ AWS Cognito Authentication
- ❏ User Confirmation
- ❏ IAM & Network Security
- ❏ Data & API Protection

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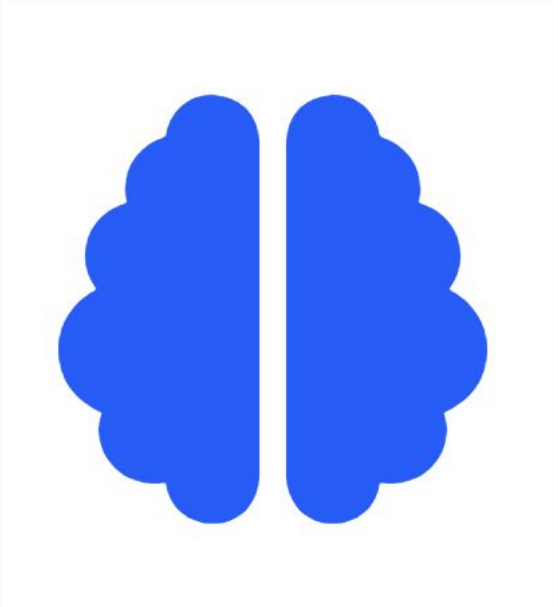
Challenges



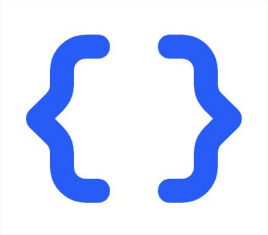
Technical

- Learning AWS technologies
- Using and updating Expo project
- Maintaining dependencies

Team

- Unclear vision from start of project
- Difficulties figuring out feature prioritization and user needs

Learning Takeaways



Technical

- ❏ React
- ❏ React Native
- ❏ TypeScript
- ❏ AWS + Cloud Computing
- ❏ SQLAlchemy
- ❏ AI Model Creation and Training

Team

- ❏ Time Management
- ❏ Assigning tasks by strengths
- ❏ Communication
- ❏ Accountability

Thank you!

Questions?