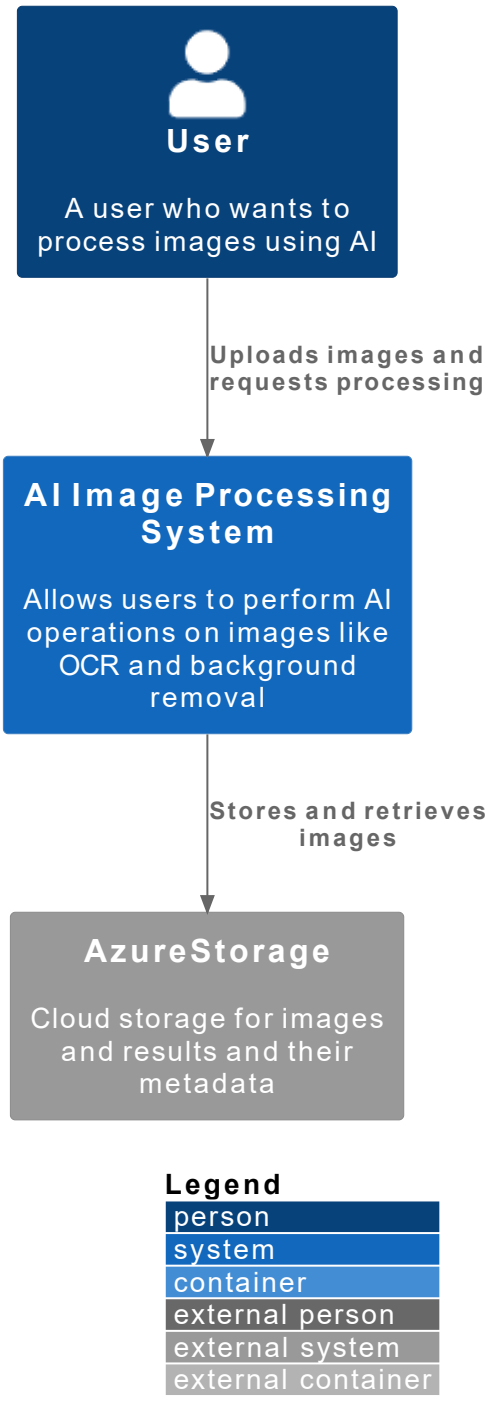
Documentation

C4 level diagram for the system

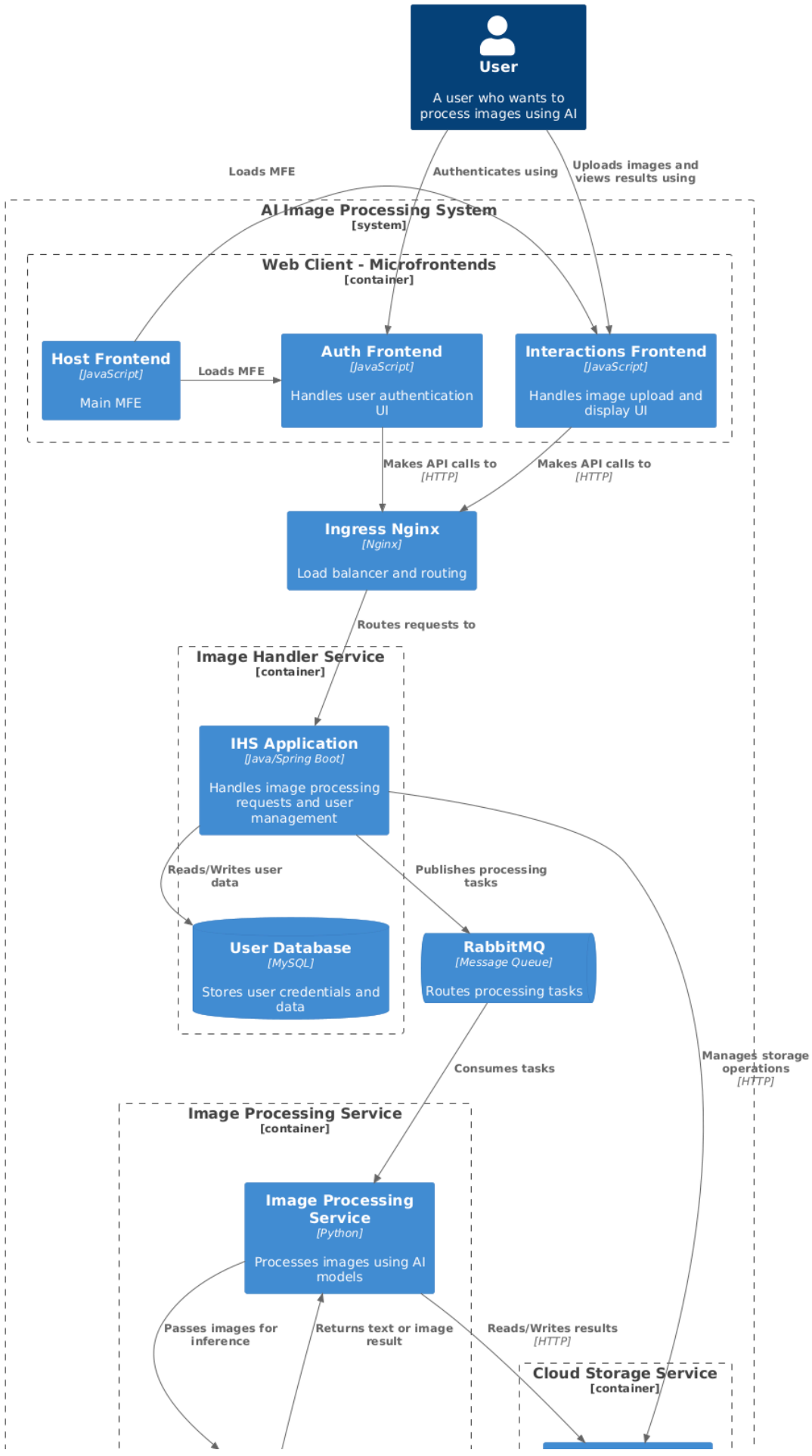
Level 1:

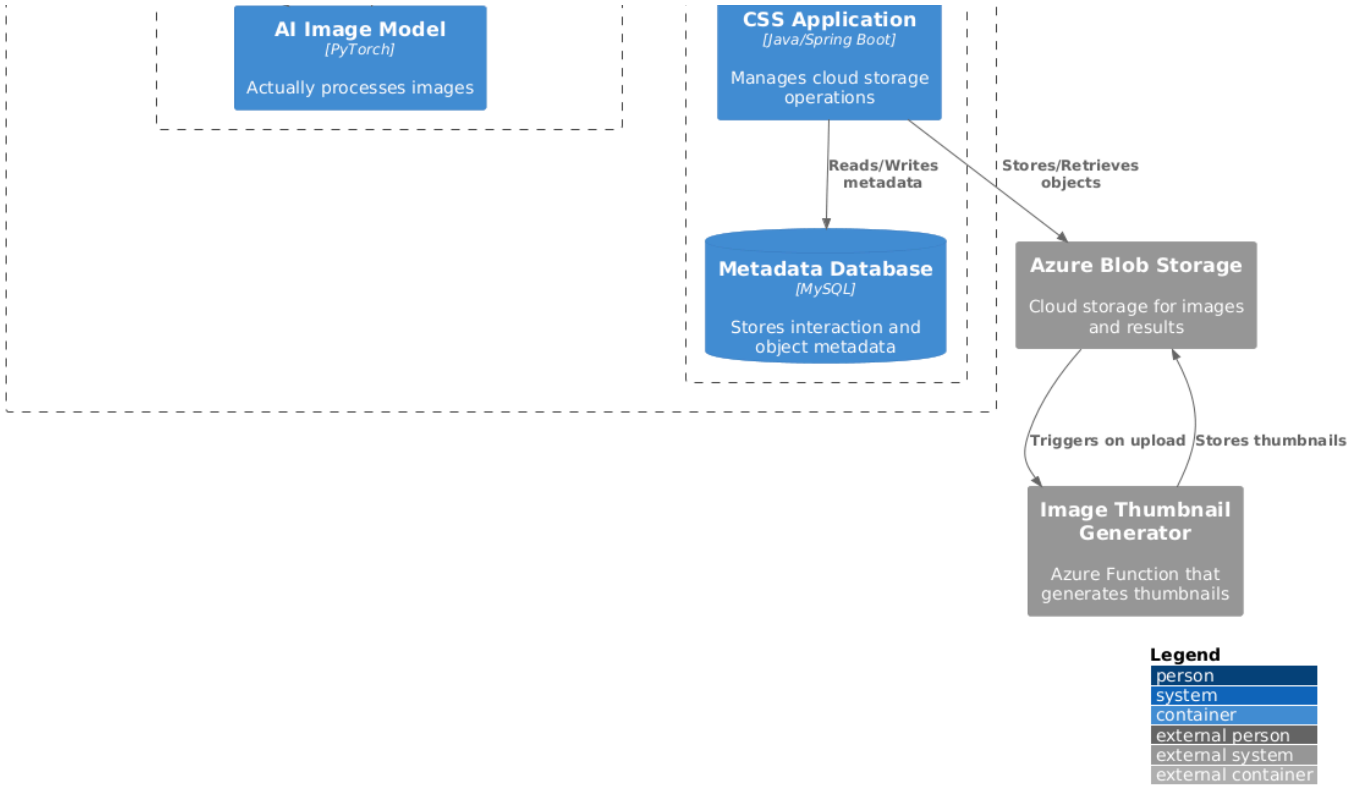
System Context diagram for AI Image Processing System



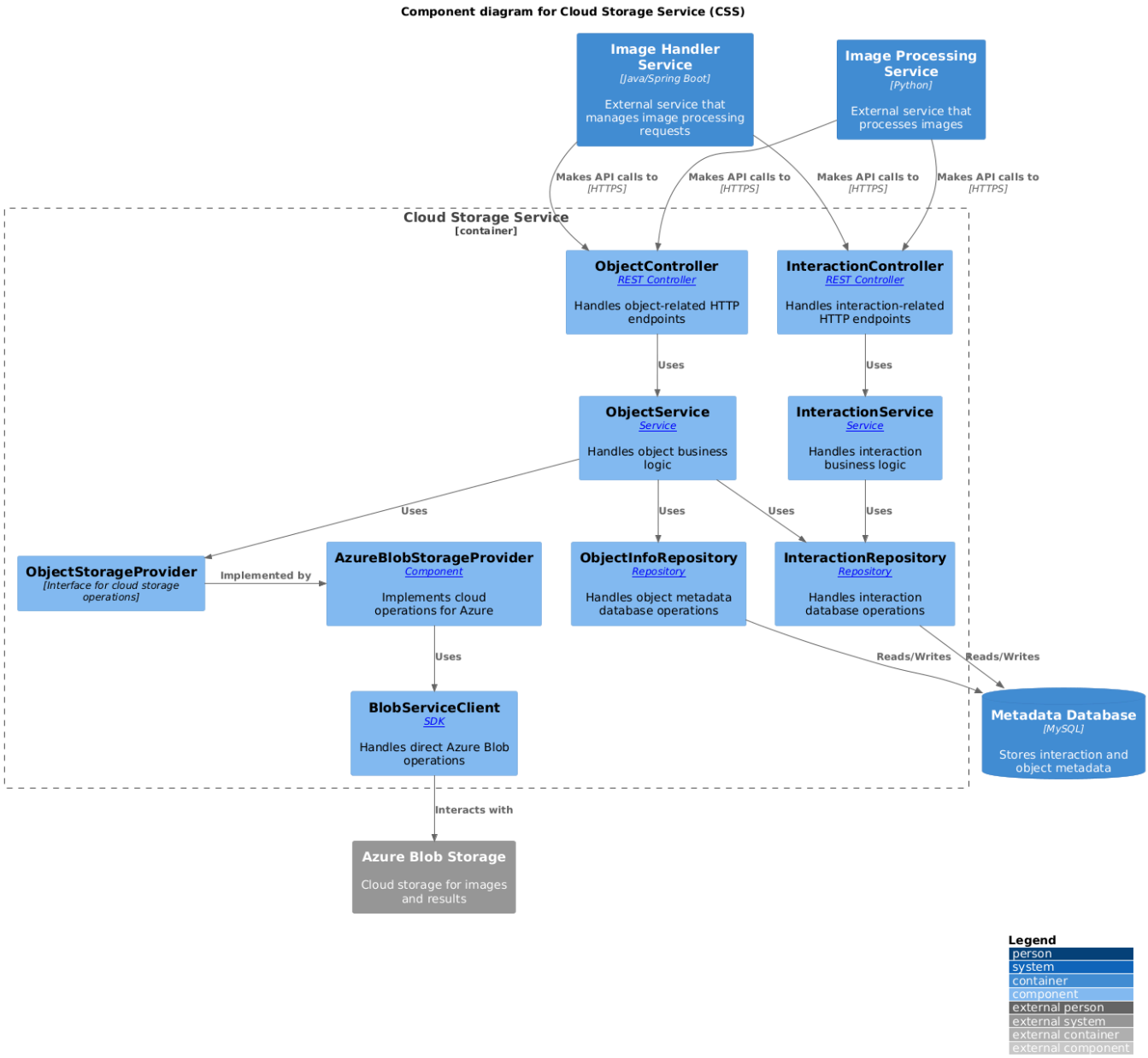
Level 2:

Container diagram for AI Image Processing System

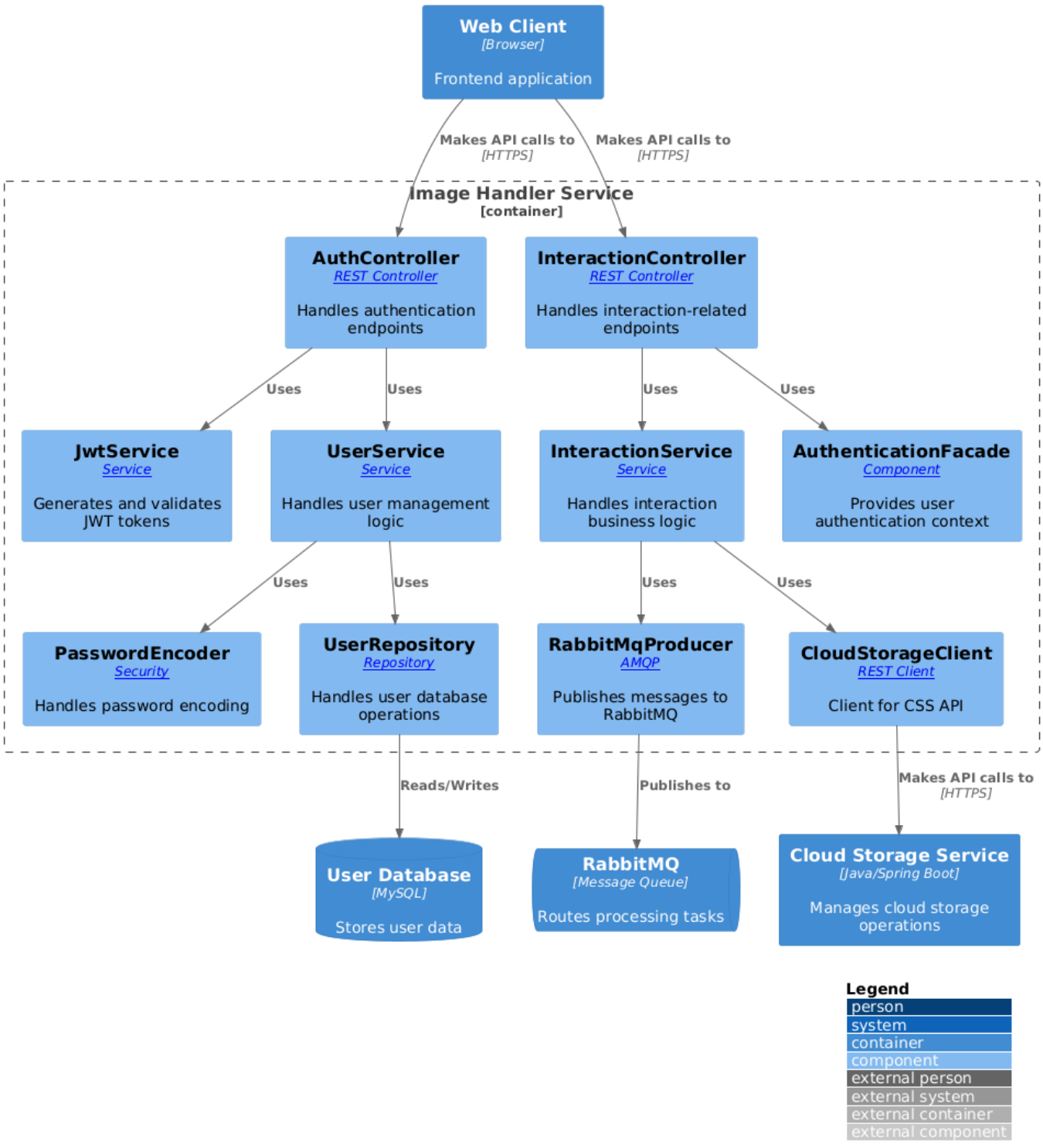
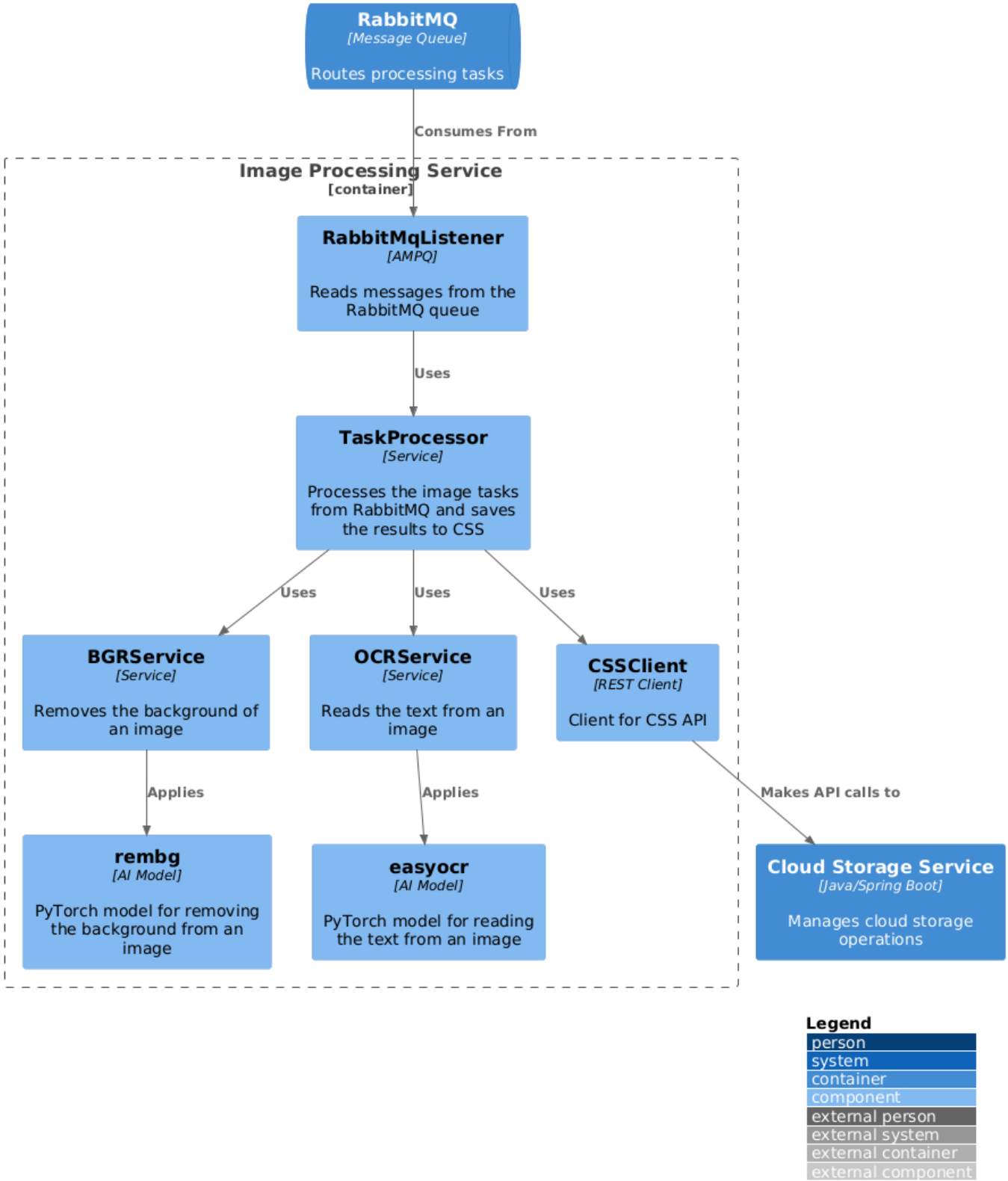



AI Image Model
[PyTorch]
Actually processes images
CSS Application
[Java/Spring Boot]
Manages cloud storage operations
Reads/Writes metadata
Stores/Retrieves objects
Metadata Database
[MySQL]
Stores interaction and object metadata
Azure Blob Storage
Cloud storage for images and results
Triggers on upload
Stores thumbnails
Image Thumbnail Generator
Azure Function that generates thumbnails
Legend
person
system
container
external person
external system
external container

Level 3:


Component diagram for Cloud Storage Service (CSS)
Image Handler Service
[Java/Spring Boot]
External service that manages image processing requests
Image Processing Service
[Python]
External service that processes images
Makes API calls to
[HTTPS]
Makes API calls to
[HTTPS]
Makes API calls to
[HTTPS]
Makes API calls to
[HTTPS]
Cloud Storage Service
[container]
ObjectController
REST Controller
Handles object-related HTTP endpoints
InteractionController
REST Controller
Handles interaction-related HTTP endpoints
Uses
Uses
ObjectService
Service
Handles object business logic
InteractionService
Service
Handles interaction business logic
Uses
Uses
Uses
Uses
ObjectStorageProvider
[Interface for cloud storage operations]
Implemented by
AzureBlobStorageProvider
Component
Implements cloud operations for Azure
ObjectInfoRepository
Repository
Handles object metadata database operations
InteractionRepository
Repository
Handles interaction database operations
Uses
Reads/Writes
Reads/Writes
BlobServiceClient
SDK
Handles direct Azure Blob operations
Metadata Database
[MySQL]
Stores interaction and object metadata
Interacts with
Azure Blob Storage
Cloud storage for images and results
Legend
person
system
container
component
external person
external system
external container
external component

Component diagram for Image Handler Service (IHS)



Component diagram for Image Processing Service (IPS)