AI-Hostel-Manager/

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├── backend/ # Flask backend app

│ ├── app.py # Main Flask app entry point

│ ├── config.py # Configurations (DB, API keys, etc.)

│ ├── requirements.txt # Python dependencies

│ ├── models/ # ML models and related scripts

│ │ ├── room\_recommendation.py

│ │ ├── anomaly\_detection.py

│ │ ├── complaint\_priority.py

│ │ ├── mess\_forecast.py

│ │ └── stay\_duration.py

│ ├── routes/ # Flask route handlers (blueprints)

│ │ ├── auth.py # Student registration, login APIs

│ │ ├── rooms.py # Room allocation APIs

│ │ ├── mess.py # Mess management APIs

│ │ ├── complaints.py # Complaint handling APIs

│ │ ├── admin.py # Admin dashboard routes

│ │ └── notifications.py # Alerts and notifications routes

│ ├── services/ # Business logic, ML integration, helpers

│ │ └── ml\_service.py

│ ├── static/ # Backend static files (optional)

│ ├── templates/ # Jinja2 templates if using Flask for frontend (optional)

│ └── utils.py # Utility functions

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├── frontend/ # Frontend files served separately or via Flask

│ ├── index.html # Main landing page

│ ├── css/

│ │ └── styles.css # All CSS files

│ ├── js/

│ │ ├── main.js # Main JS file (fetch APIs, DOM manipulation)

│ │ ├── roomAllocation.js

│ │ ├── messManagement.js

│ │ └── complaintHandling.js

│ ├── assets/ # Images, icons, fonts, etc.

│ └── components/ # Optional if you go React or modular JS

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├── database/ # DB schema, migration scripts, seed data

│ ├── schema.sql

│ ├── seeds.sql

│ └── migrations/ # Alembic or other migration tools

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├── ml\_models/ # Serialized/trained ML models saved here (.pkl files)

│ ├── room\_recommendation.pkl

│ ├── anomaly\_detection.pkl

│ ├── complaint\_priority.pkl

│ ├── mess\_forecast.pkl

│ └── stay\_duration.pkl

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├── tests/ # Unit and integration tests (backend & frontend)

│ ├── backend/

│ └── frontend/

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├── docs/ # Documentation, API specs, project proposal, etc.

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├── .gitignore # Git ignore file

├── README.md # Project overview & setup instructions

└── run.sh / run.bat # Optional scripts to start your Flask server