Name: **Jay PATEL**

Project: **Semester 3**

ThreatIQ – Phishing Detection Chatbot

Summary Report of Accomplished Tasks:

This report provides an overview of the tasks completed for the ThreatIQ project and indicates where the corresponding work can be found in the submission.

1. Backend Development

- **Authentication System** o Implemented JWT-based authentication with user roles (admin, user).
    - o Location: app/routers/auth.py, app/models.py.
- **Analysis Pipeline**
    - o Built the /analyze/ endpoint to process user inputs and detect phishing vs. safe messages.
    - o Integrated multiple heuristic checks and AI-powered results.
    - o Location: app/routers/analyze.py, app/heuristics.py.
- **Data Persistence** o Implemented SQLAlchemy models for User and Analysis. o Analysis history stored with timestamps, linked to users.
    - o Location: app/models.py, app/database.py.
- **Statistics API**
    - o Created /stats/judgments endpoint for pie chart data (Safe vs Phishing vs Other).
    - o Provides aggregated analysis counts for frontend charts.
    - o Location: app/routers/stats.py.
- **Seeding Script**
    - o Added seed_data.py to generate dummy analyses for testing dashboard charts.
    - o Location: app/seed_data.py.

2.   Frontend Development ·   Authentication & Routing

- o   Next.js pages for login, dashboard, analyze, history, settings.

- o   Location: frontend/src/pages/*.

- **Analyze Page (Chat Interface)**

- o   Built a conversational interface for analyzing user text. o   Includes structured bot responses (judgment, explanation, tips). o   Bug fixes: input clears after send, "Analyzing…" message added.

- o   Location: frontend/src/app/analyze/page.tsx.

- **Dashboard**

- o   Integrated charts for activity insights:

   - **Line Chart**: analyses per day.

   - **Bar Chart**: monthly analyses.

   - **Pie Chart**: judgment breakdown. o   Location: frontend/src/app/dashboard/page.tsx, frontend/src/components/charts/*.

3. Testing & Debugging

- Verified seeded data connects to the correct user (ID=2).

- Debugged pie chart showing only "Other" → fixed parsing logic in backend & frontend.

- Resolved frontend input persistence bug.

- Confirmed endpoints respond correctly (/analyze/, /analyze/history, /stats/judgments).

4. Documentation

- Added README.md with project overview, features, and usage instructions.

- Created detailed deliverables (Parts A–F) explaining design decisions.

- Prepared GenAI-log.docx documenting where generative AI was used (less than 30% of total work).

Conclusion

All major project requirements have been met:

- Authentication
- Analysis pipeline
- Dashboard with charts
- Seeding and statistics
- Frontend interaction

The work is fully functional and tested, with clear documentation for review.