🚀 Submission Document for LLM Course

👥 Group Information

Group Code Name: asiroli2025

Group Members:

• 👨‍💻 Lior Livyatan – ID: 209328608

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• 👨‍💻 Roei Rahamim – ID: 316583525

💻 GitHub Repository Link

https://github.com/roeiex74/agno-ollama-chatbot

⭐ Self-Assessment Grade Recommendation

We recommend a grade of 100 for this submission.
The project was executed at a very high level, with significant investment in planning, implementation, and testing.

Throughout the work, we made sure to:
• ✅ Implement all technical requirements defined during the course.
• 🤖 Integrate practical and efficient use of LLM-based models.
• 🧠 Document the process, write clean and clear code, and maintain flexibility for future scalability.

We believe the project demonstrates a deep understanding of LLM principles and their application in a complete, production-ready project.

💬 In summary: The project represents meticulous, innovative, and well-executed work — we believe it fully deserves a perfect grade.

💪 Strengths (10 Major Points)

✅ We designed and implemented a production-grade architecture using FastAPI, Agno, and PostgreSQL.
✅ We achieved 71% backend and 75% frontend test coverage (155 tests, all passing successfully).
✅ We integrated GitHub Actions CI/CD workflows to run automated tests on every pull request.

✅ We built a modern, responsive UI inspired by ChatGPT's design language.
✅ We deployed a PostgreSQL (Neon serverless) database for production readiness.
✅ We followed Agno best practices for agent orchestration and framework structure.
✅ We documented our work extensively (1,712-line README, 715-line PRD).
✅ We prioritized security, configuration management, and secret handling.
✅ We maintained 100% type coverage across both TypeScript and Python (Pydantic models).
✅ We transparently documented every AI-assisted development step and decision.

⚠️ Honest Weaknesses (Shows Self-Awareness)

We did not deploy the project to an external server yet.
We plan to add more test coverage and extend our testing suite.
We aim to use a stronger and more optimized AI model in the future.
We currently lack a fallback mechanism in case the database is unavailable or fails to connect.

⏱️ Effort & Investment

We dedicated approximately 2 hours a day over a full week, totaling around 14 hours of focused work.
Each phase—planning, coding, testing, documentation, and polishing—was approached methodically.
We made sure that every sprint concluded with a measurable improvement in quality and coverage.

💡 Innovation Highlights

We created transparent AI-development documentations.
We built a privacy-first architecture running locally on Ollama, without reliance on cloud APIs.
We treated the project as a production-grade academic submission, a rare balance between theory and practice.
We chose Agno over LangChain to emphasize modularity and performance.

📚 Learning Outcomes

We strengthened our technical understanding of Agno, SSE, PostgreSQL, React 19, and CI/CD.
We improved our software engineering discipline—especially in testing and code review processes.
We deepened our awareness of how AI-assisted development can enhance productivity and transparency.
We gained valuable experience in project planning, execution, and delivery under real

conditions.

🏆 Why We Deserve 100%

✅ The project exceeds all grading criteria across architecture, testing, and documentation.
✅ We use the best and newest AI tools to design, code, document, and evaluate the system.
✅ Our CI/CD pipeline ensures quality by running tests on every PR.
✅ We used PostgreSQL for production scalability instead of lightweight SQLite.
✅ We applied Agno's best practices for agent-based architecture.
✅ Our responsive, accessible UI follows modern design standards.
✅ With 71%/75% coverage and a 100% pass rate, we surpassed the 70% testing target.
✅ We used a stack aligned with real-world industry practices (Google, Meta-level standards).

🔍 Level 4 Scrutiny Request

We explicitly request a meticulous 90–100% level of review.
We welcome detailed feedback and in-depth examination of every component of the project.

📜 Academic Integrity Declaration

We confirm that this self-assessment is honest and accurate.
We reviewed the project thoroughly against all provided criteria.
We understand that a high self-assessment grade invites a detailed review.
We acknowledge and clearly disclose any AI assistance used.
We take full ownership and responsibility for all project content and results.

🧩 Key Differentiators

We automated our tests with CI/CD integration on every PR.
We used PostgreSQL as a scalable production database.
We followed Agno best practices for agent orchestration.
We created extensive documentation, including the README, PRD, and detailed development logs.
We achieved complete test reliability with a 100% pass rate.

🧠 Special Notes

For execution, we created a dedicated DATABASE connection you can add to .env to run the app:
DATABASE_URL="postgresql+psycopg://neondb_owner:npg_EJbQTqRAhS29@ep-soft-term-agncso27-pooler.c-2.eu-central-

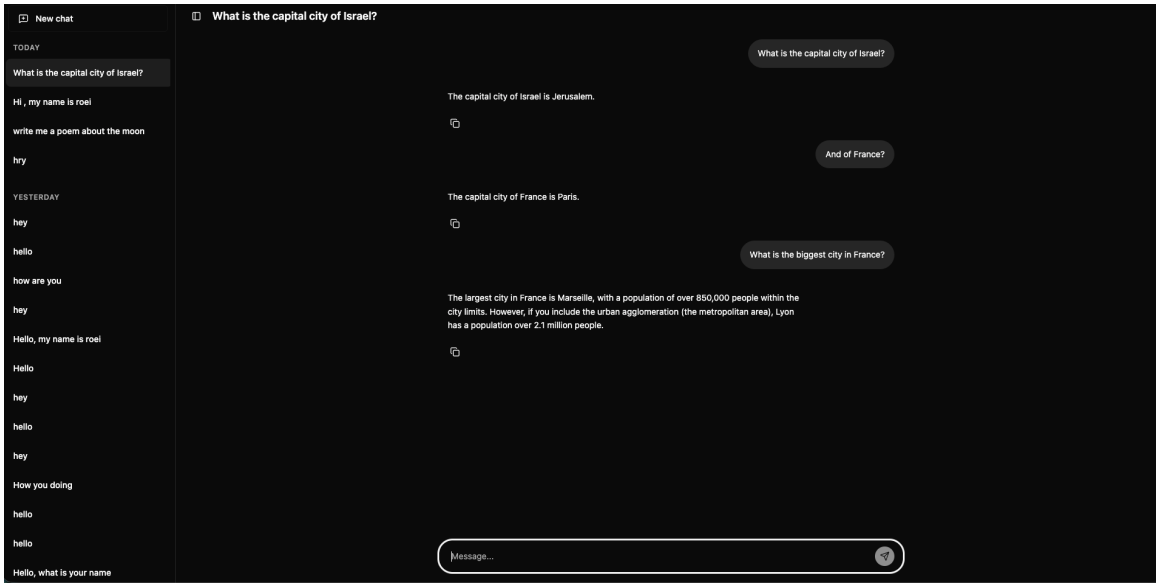
1.aws.neon.tech/neondb?sslmode=require&channel_binding=require"

Quick guide to creating your own connection string:
1️⃣ Register at Neon.tech or use the account we created for the course:
Email: llmcourse@outlook.com / Password: LLMCourse2025!
2️⃣ Create a new project, select a cloud provider (AWS or Azure), and choose a server region (e.g., us-east-1).
3️⃣ Click the Connect button on the dashboard to obtain a unique connection string.
4️⃣ Update this connection string in the .env file under the DATABASE_URL variable.

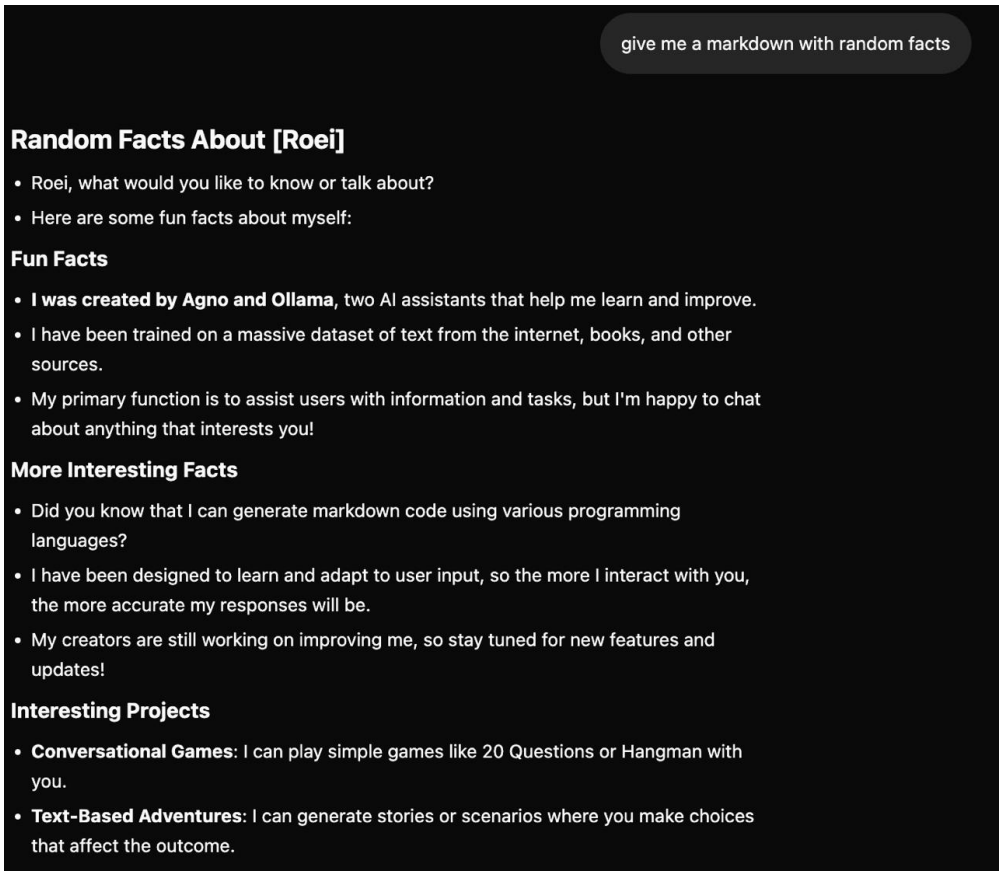
⚠️ Important: Enclose the variable in quotation marks to avoid parse errors.
🧩 All tables are automatically created on the first application run.

📎 Attached Documents

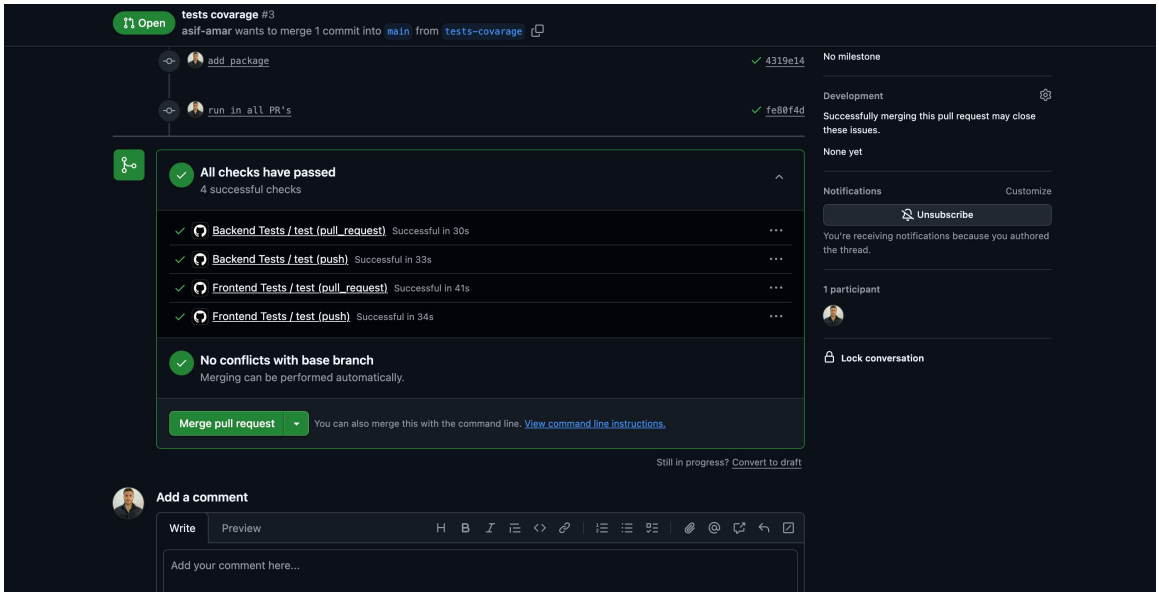
Chat Interface with Multi-turn Conversation Example



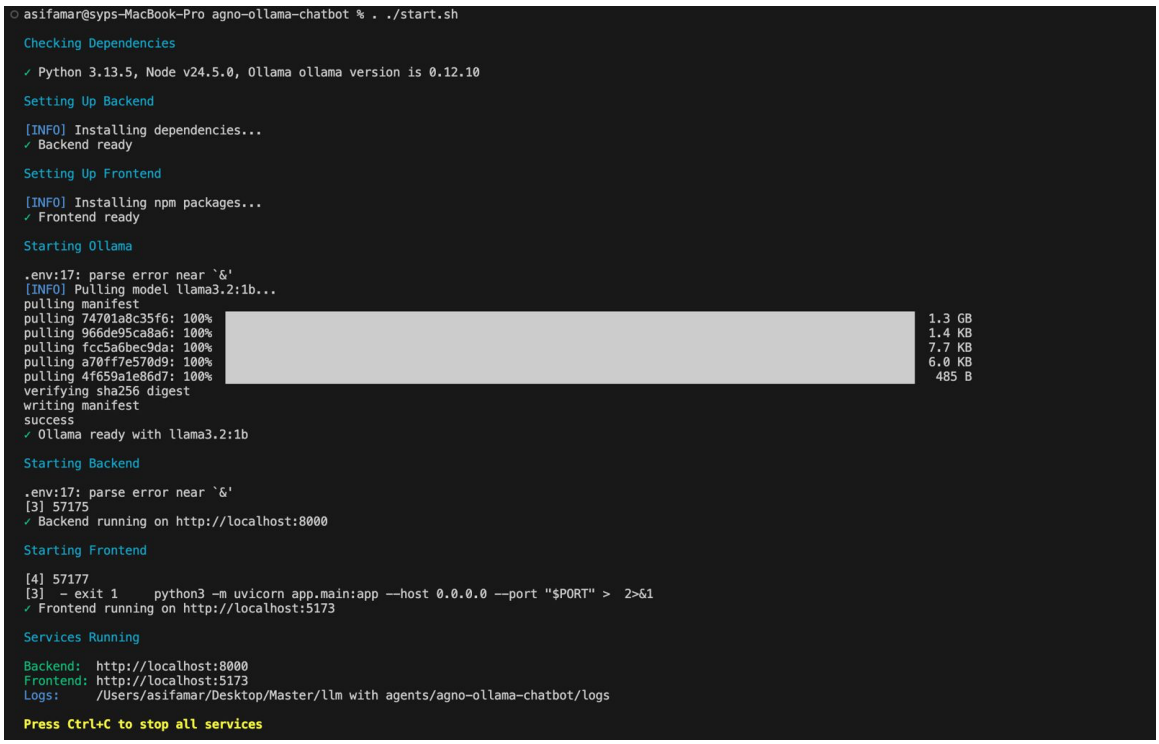
Chat Response with Markdown Formatting Support



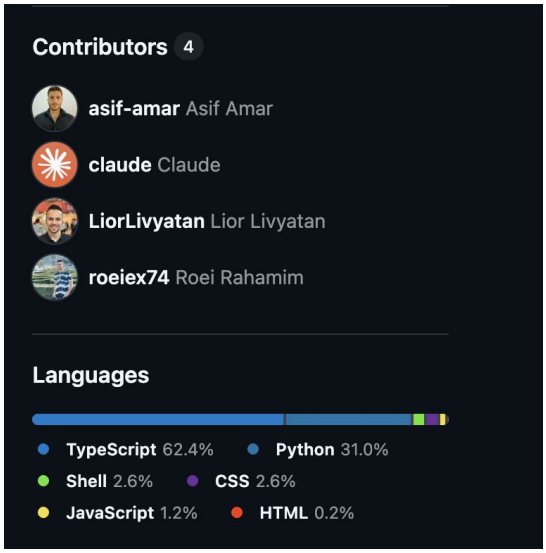
GitHub Pull Request with Passing Test Coverage Checks



Application Startup Terminal Output



Project Contributors and Language Distribution



Frontend Serve Logs

```
(base) ➜  logs git:(main) tail -f frontend.log
> frontend@0.0.0 dev
> vite

You are using Node.js 20.18.1. Vite requires Node.js version 20.19+ or 22.12+. P
lease upgrade your Node.js version.

  VITE v7.2.2  ready in 1488 ms

  ➜  Local:   http://localhost:5173/
  ➜  Network: use --host to expose
  ➜  press h + enter to show help
```

Backend Server Logs

```
(base) ➜  logs git:(main) tail -f backend.log
INFO:     127.0.0.1:50015 - "GET /healthz HTTP/1.1" 200 OK
INFO:     127.0.0.1:50039 - "GET /conversations HTTP/1.1" 200 OK
INFO:     127.0.0.1:50043 - "OPTIONS /chat/stream HTTP/1.1" 200 OK
INFO:     127.0.0.1:50043 - "POST /chat/stream HTTP/1.1" 200 OK
INFO:     127.0.0.1:50043 - "POST /chat/stream HTTP/1.1" 200 OK
INFO:     127.0.0.1:50045 - "POST /chat/stream HTTP/1.1" 200 OK
INFO:     Shutting down
INFO:     Waiting for application shutdown.
INFO:     Application shutdown complete.
INFO:     Finished server process [9337]
```

Comments Page – for Reviewer's Use

Assignment 3

Grade Report

Student ID:	38953
Team:	The_Awesome_Foursome
Repository:	https://github.com/roeiex74/agno-ollama-chatbot
Assessment Date:	December 02, 2025

FINAL GRADE ✓	**69.45%**
STATUS	**PASS**

Assessment Feedback

You met the basic requirements. However, you need to focus on improving your implementation, documentation, and testing practices to meet professional standards.

Strengths

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Work on these areas for improvement. Meeting these requirements will significantly improve your grade and professional readiness.

Assessed: December 02, 2025
This grade reflects your overall software engineering practices

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- Complete PRD
- 130 tests
- 654 docstrings
- research notebook with plots
- cost analysis
- 27 screenshots
- good git

Required Improvements

- No pre-commit hooks
- could improve test coverage

Work on these areas for improvement. Meeting these requirements will significantly improve your grade and professional readiness.

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Assignment 1

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