Overview

The course, "Engineering Business Solutions" at FDU is led by Prof. Tiran Dagan which arms students with cutting-edge AI tools, frameworks and development practices to solve real-world business challenges. The course is a graduate-level studies program which is also open to undergraduate students.
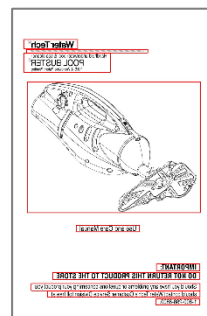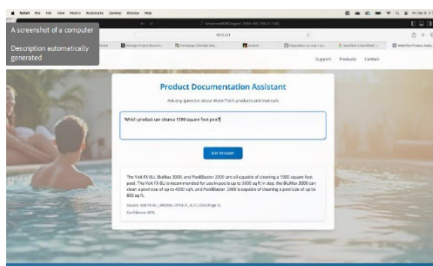
Recently, students organized into project teams to build a Retrieval-Augmented Generation (RAG) application for a real-world client (RSG Media – a Media & Entertainment rights & royalties platform company and WaterTech Corp., a global consumer product manufacturer). The culmination of their work was a live demo to stakeholders, which was delivered successfully, with clients praising the innovative approaches incorporated—some of which they hadn't previously considered.

Key Achievements

- **Hyper-Accelerated Development:** Leveraged AI-assisted development tools like **GitHub Copilot** and **Cursor AI** to rapidly prototype and iterate, significantly reducing development time.

- **End-to-End Application Development:** Built a complete application, including database management, API development, and front-end design, ensuring seamless integration of all components in an Agile Full-Stack development approach.

- **Client Collaboration:** Worked closely with a real-world client to gather requirements, conduct stakeholder interviews, and provide weekly updates, ensuring the final product aligned with business goals.

- **Innovative RAG System:** Designed and implemented a **Retrieval-Augmented Generation** system to enable intelligent data retrieval and content generation tailored to the client's needs.

- **Live Demo Success:** Delivered a polished, working prototype in a live demo session, earning client recognition for both functionality and innovation.

Client Benefits

- **Low-Cost R&D:** Allowed the customers to experiment with emerging technologies and techniques to create new revenue streams and dramatically improve productivity.

- **Talent Identification:** This class offers the sponsoring company an opportunity to observe the top talent week over week for 8 weeks and through direct interaction (during the interview session and on demo day).

- **Example 1**: WaterTech staff can ask service/repair questions in any language and get a qualified answer from a specific service manual page:

- **Example 2**: Students developed an automatic ingest and contract analysis tool which determines heading, title, body, tables from the complex text layout and then find specific elements of the contract to map to pre-determined list of 100 contract elements. Unique techniques to enrich and summarize the ingested text increased the accuracy significantly compared to traditional RAG methods.

Technical Skills

- **Programming Languages:** Python (OOP, Data Structures), JavaScript
- **Frameworks & Libraries:** FastAPI, Next.js, TailwindCSS, LangChain, Supabase
- **AI Tools & IDEs: Cursor AI**, GitHub Copilot, OpenAI API, Anthropic (Claude)
- **Databases:** PostgreSQL, Supabase
- **Development Tools:** Visual Studio Code, Replit, GitHub, Figma
- **Business & Collaboration:** Stakeholder Interviewing, Requirement Gathering, Agile Project Management, Weekly Client Updates, Live Demos

About Tiran Dagan

Mr. Tiran Dagan is the former VP, CDO/Global Head of Industry Solutions at Cognizant, a global IT services firm with 400,000 employees. Prior to Cognizant Tiran held various leadership roles at GE/NBC Universal, Ernst & Young and IBM. As the architect of Cognizant's Industry Solution Group (ISG), Tiran drove the creation of repeatable, business solutions that generated over $200 million in new revenue for his firm. His hands-on approach to technology, including developing prototypes using cutting-edge AI and mobile technologies, combined with his deep understanding of business operations, positions him uniquely to guide students through the practical applications of AI in real-world business contexts.

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