

# Necati Kaan Aydını

## CONTACT

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## EXPERIENCE

### Local LLM Engineering Intern | August 2025 – September 2025

Artifeye Technologies

- Developed a Local Retrieval-Augmented Generation (RAG) agent to process and analyze extensive textile manufacturing documents.
- Implemented a custom agent library to handle tasks such as document indexing and query processing, improving query efficiency by around 30% and ensuring seamless integration with vector stores and embedding models.
- Focused on enabling the agents to provide accurate, context-aware responses, enhancing the system's overall intelligence and usability.
- Built ChromaDB-based storage and retrieval pipelines for embedding-driven similarity search, enabling efficient and accurate document processing.

## PROJECTS

### LogicDrawer – AI Powered Digital Logic Design Platform

TypeScript, Node.js/Express, MongoDB, Python, YOLO

- Developed a web-based platform for designing and simulating digital logic circuits with a drag-and-drop interface and component library (gates, ALUs, sequential circuits).
- Trained a custom YOLO model to recognize hand-drawn circuits and integrated it with natural language-to-circuit generation, enabling seamless AI-assisted circuit creation.
- Implemented real-time multi-bit simulation and logic processing, allowing users to both generate truth tables and Karnaugh maps from circuits, and synthesize circuits from truth tables and Karnaugh maps.
- Built a Python-based AI processing module and used MongoDB for user and circuit management.
- Created a Verilog parser and compiler to convert HDL code into interactive, visual circuit representations for simulation and verification.

### MyRoom – Everything you need to stay organized

Java, JavaFX, SQLite,

- Architected and implemented a full MVC structure using JavaFX and FXML, enabling modular, maintainable, and interactive UI components.
- Developed the entire controller system and UI logic, ensuring seamless data flow and real-time user interaction.
- Designed reusable and scalable JavaFX components for a clean, responsive interface.

### ChromaDB Node for n8n – Enables complete LLM workflow development

TypeScript, n8n, ChromaDB, LangChain

- Developed a custom n8n node to integrate ChromaDB for document storage, retrieval, and embedding-based similarity search.
- Implemented client configuration for both self-hosted and cloud deployments, including full authentication and error handling.

## EDUCATION

### Bilkent University

Bachelor of Science in Computer Engineering

- GPA: 3.57
- Vice President, Association for Computing Machinery (ACM)

## SKILLS

**Programming Languages:** Java, TypeScript, Python, JavaScript, C++, HTML, CSS

**Frameworks & Libraries:** JavaFX, Express.js, Vite, Electron

**AI & Systems:** RAG, Vector Databases, LLM integration, YOLO-based object recognition

**Tools & Technologies:** Node.js, MongoDB, Git, ChromaDB, Ollama, Docker, n8n

## LANGUAGES & INTERESTS

**Languages:** Turkish (native), English (fluent)

**Interests:** Water Polo, Chess, Kickboxing, Swimming, Badminton