Cristian Scarlat

Software developer

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Summary

I am a passionate and versatile software developer with a strong foundation in both front-end development and embedded systems programming. With over three years of experience programming AVR microcontrollers in C and a subsequent transition to web development, I bring a unique perspective that combines low-level hardware knowledge with modern web technologies.

In the web domain, I specialize in building engaging and responsive user interfaces using React.js, Next.js, and UI frameworks like Bootstrap, Material-UI, and Tailwind CSS. My backend expertise includes Node.js, Express, PostgreSQL, Firebase, and Python with Django, allowing me to deliver full-stack solutions.

As a dedicated front-end developer, I thrive on crafting clean, intuitive, and efficient interfaces with HTML5, CSS3, JavaScript, Sass, and tools like Webpack. My love for programming extends beyond my professional work; I actively explore IoT projects that merge my skills in microcontrollers and web technologies, reflecting my lifelong curiosity and commitment to innovation.

Experience

Yelo

Software Developer

April 2025 - Present

Built a RAG-powered chat application using Dockerized microservices (Ollama, ChromaDB, Express.js). Implemented document embedding (TensorFlow USE), semantic search, and context retrieval to augment LLM responses. Developed a ChatGPT-like frontend (Next.js + Tailwind) with real-time interaction.

Project: RAG-powered Chat Application with Ollama, ChromaDB, and Express.js

- Architected and deployed a multi-container environment using Docker Compose, with separate services for Ollama (LLM inference), ChromaDB (vector database), and an Express.js REST API layer.
- Implemented RAG (Retrieval Augmented Generation) pipeline:
  - Preprocessed and chunked Markdown documents.
  - Generated embeddings using TensorFlow Universal Sentence Encoder (USE).
  - Stored vectors, metadata, and documents in ChromaDB for semantic search.
  - Retrieved context at query time and augmented prompts dynamically.
- Built a REST API in Express.js to manage chat sessions, handle embeddings, and forward requests to Ollama's REST API for both generate and chat endpoints.
- Developed a ChatGPT-like frontend (Next.js + Tailwind) that allows interactive Q&A, retrieves context from Chroma, and streams answers from Ollama in real time.
- Optimized data ingestion pipeline with concurrent workers to embed and store thousands of Markdown files efficiently.
- Designed system with modularity and scalability in mind, enabling easy replacement of embedding models, storage backends, or UI layer.

Software Development Academy

Javascript and React Trainner

June 2021 - Present

Delivered comprehensive training programs on JavaScript and React.js, tailored to students at varying skill levels, fostering a strong understanding of modern web development practices.

Conducted interactive live coding workshops to demonstrate real-world problem-solving techniques and best practices, promoting hands-on learning and active student participation.

Designed and implemented engaging course materials, including tutorials, coding exercises, and project assignments, to enhance learning outcomes.

Provided personalized mentorship and feedback, helping students build practical skills and successfully complete portfolio projects.

Kept curriculum up-to-date with the latest industry trends and technologies, ensuring students were prepared for real-world development challenges.

Vatis Tech

Javascript and React JS developer

June 2022 - June 2024

Developed and implemented a robust text editor using Next.js, featuring real-time synchronization of video and audio with editable text, enabling seamless subtitle creation and editing.

Leveraged the content-editable attribute to deliver a user-friendly and interactive editing experience, ensuring high performance and accuracy in multimedia synchronization.

Collaborated closely with cross-functional teams to ensure project alignment with client requirements and deadlines, maintaining code quality and scalability.

Enhanced the user interface for intuitive navigation and accessibility, contributing to improved user satisfaction and engagement metrics.

Ness Digital Engineering

NodeJS, ReactJS developer

July 2021 - June 2022

Develop a dynamic form application capable of generating forms in real-time based on data received from the backend.

Implemented responsive and modular components, ensuring seamless integration with backend APIs and a smooth user experience across devices.

Optimized application performance by adhering to best practices in modern frontend development, including efficient state management and component-based architecture.

Participated in code reviews and agile development practices, contributing to the delivery of high-quality, maintainable code within tight deadlines.

Worked closely with backend developers and UX designers to align functionality and design, ensuring the application met business and user requirements.

Everseen

NodeJS, ReactJS developer

April 2020 - June 2021

Contributed to the development of user interfaces designed to train AI engines, incorporating advanced tools for annotating images and GIFs.

Engineered interactive drawing functionalities to enable precise area selection and annotation, providing pixel-perfect measurements critical for AI training datasets.

Collaborated with data scientists and backend teams to ensure seamless data flow and integration with AI training pipelines.

Focused on creating intuitive and responsive interfaces, enhancing usability for end-users while maintaining high performance and reliability.

Cognizant Softvision

NodeJS, ReactJS developer

October 2018 - April 2020

Collaborated with back-end developers and web designers to enhance usability, ensuring seamless integration of front-end and back-end systems.

Authored functional requirement documents and guides, and created quality mockups and prototypes to facilitate the development process.

Supported back-end developers with coding, troubleshooting, and API definitions, fostering efficient cross-functional collaboration.

Ensured high-quality graphic standards and brand consistency across all user interfaces, contributing to a polished and cohesive user experience.

Supervised and mentored less experienced team members, fostering knowledge sharing and skill development within the team.

Partnered with the software engineering team, Product Management, and Technical Operations to align technical implementation with business objectives.

Engaged with senior management and business users as needed to gather requirements, provide updates, and ensure project success.

3Pillar Global Romania

deJS, ReactJS developer

June 2017 - October 2018

Developed responsive and dynamic front-end applications using React.js and Redux for efficient state management, ensuring high performance and scalability.

Collaborated closely with the design team to translate UI/UX designs into functional and visually appealing web interfaces.

Participated in the entire application lifecycle, with a strong focus on coding, debugging, and continuous improvement.

Wrote clean, modular, and maintainable code to deliver functional and high-quality web applications.

Troubleshot and debugged applications, resolving issues promptly to minimize downtime and improve user experience.

Modernized legacy applications by integrating cutting-edge technologies, enhancing performance, and extending functionality.

Built reusable code and component libraries, streamlining development processes and promoting scalability for future projects.

Meta Engineering Solutions

Embedded Engineer

December 2016 - June 2017

HE-Solution was renamed to META Engineering Solutions.

HE SOLUTIONS SRL

Embedded Engineer

June 2014 - November 2016

Led the development of full custom projects, from hardware design to programming, with a focus on ATmega microcontrollers (ATMEL) using ANSI C.

Designed and laid out PCBs, and programmed low-level firmware to interface with hardware components via communication protocols such as I2C, SPI, and UART.

Gained in-depth experience in low-level programming, working directly with hardware timers, interrupts, and memory management for optimized system performance.

Designed, modified, and interpreted schematics and PCBs, ensuring accurate understanding of hardware requirements and seamless integration with software solutions.

Collaborated with cross-functional teams to define and implement solutions that aligned with project specifications and business needs.

Developed Python-based UIs and testing tools to streamline the debugging and testing processes, improving workflow efficiency.

Focused on continuous learning and skill development, enhancing both hardware and software expertise in embedded systems.

Education

Universitatea din Oradea

Engineer's degree, IT software

https://ieti.uoradea.ro/ro/