



Hamit Kamberi

Research Assistant – Software Engineer

Contact

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Profile

Backend Engineer & Researcher specializing in AI-driven systems and scalable platforms. Experienced in OpenAI integrations, RAG architectures, and backend development (Ruby on Rails, ASP.NET). Passionate about building intelligent, secure, and production-ready solutions.

Experience

January 2025 - Present

Researcher/Software Engineer| Max Van Der Stoel Institute (Tetovo, North Macedonia)

As a Software Developer and Researcher at MVDSI, I am responsible for designing, building, and maintaining the infrastructure of a platform that connects nine universities across Europe. My role involves building the platform from the ground up, ensuring its seamless functionality, and overseeing server administration and backend services. I am also involved in the configuration and integration of EduGain, facilitating secure and seamless authentication across the universities. I actively work on optimizing system performance, addressing technical challenges, and supporting the platform's growth and scalability. Additionally, I collaborate with cross-functional teams to integrate new features and maintain high standards of security and data integrity across the platform. As part of our research initiatives, I also developed a RAG-powered Question Answering system leveraging local language models and a full-stack architecture (React.js, Ruby on Rails, Flask, FAISS, and HuggingFace), enabling users to retrieve context-aware answers from uploaded documents—a solution designed for both research and production use.

June 2024 - Present

Software Engineer| Technoperia (Skopje, North Macedonia)

At Technoperia, I have been working as a Full Stack Developer, focusing on maintaining and enhancing an existing online food ordering application built with Ruby on Rails. My responsibilities have included optimizing performance, fixing bugs, and implementing new features to improve the overall efficiency and user experience of the application.

I am transitioning into a Backend Developer role for a new project, which will involve building an ASP.NET API for the same online food ordering platform. This new project aims to modernize the backend infrastructure, offering a more scalable and robust solution to meet the growing demands of the business.

October 2023 – Present

Freelancer | Mavens (Hamburg, Germany)

As a Backend Developer, I collect and manage data from the OpenAI API, store it in a MongoDB database, and ensure smooth and reliable data transmission to the frontend. I develop and refine AI-powered chat solutions tailored to various business needs, integrating OpenAI functionalities and handling cost calculations for Text-to-Speech (TTS) and Whisper features. In addition, I contribute to the QA process by conducting usability and end-to-end testing to ensure a seamless user experience. I also support team coordination by managing the Jira board, creating and organizing tickets to streamline project workflows.

I worked extensively with n8n to build AI-driven automation workflows. I designed and implemented two main live projects: an Appointment Workflow system and an automated call-based appointment scheduling solution. Additionally, I developed an automated news feed system that retrieves the latest updates from RSS feeds, processes the content using AI, and generates concise summaries highlighting the most important topics being discussed.

May 2022 – June 2024

Software Engineer | Spark Technologies (Tetovo, North Macedonia)

My first project involved working on the open-source project CONSUL, which I adapted for the municipality of Chair in North Macedonia. This project aimed to allow citizens to participate in their society. I customized the application to meet the municipality's specific needs, adding new features and ensuring that only the citizens of Chair could use the application.

In my second project, I contributed to developing a user management system using Ruby on Rails and MySQL. I oversaw accounts and permissions and integrated the system with a mail server to automate official emails, maintaining distinct databases for user management and mail server operations. I enhanced the system by adding user-configurable email auto-responses and implemented a file upload and sharing feature using an Amazon S3 bucket, providing each user with a mini cloud within their account. Additionally, I created a calendar system that allowed users to create events and send invitations via ICS files, improving collaboration and organization.

In my third project, I developed an online platform for managing scholarship applications, creating a user-friendly interface for both applicants and administrators. This platform allowed students to submit applications and receive notifications throughout the application process, ensuring a smooth and efficient workflow for managing and reviewing scholarship applications.

September 2021 – April 2022
(Remote)

Freelancer | COMENO – Company (Stuttgart, Germany)

During my tenure as a freelance developer, I undertook a significant project involving the Swift programming language. Despite my initial limited knowledge of Swift, I was determined to contribute effectively to the project. My role encompassed a range of responsibilities, primarily focused on testing the application and rectifying any bugs that emerged. In this dynamic environment, I was confronted with diverse challenges that demanded quick learning and adaptability. While my familiarity with Swift was initially modest, I seized the opportunity to enhance my skills and expand my proficiency in the language.

Projects

AI-driven Video Summarization

The main focus of the application is to efficiently manage and extract valuable information from the vast amount of video content on platforms like YouTube. Built with Ruby on Rails (RoR), the application uses Google's YouTube Data API v3 to gather detailed information from YouTube videos and OpenAI's GPT-3.5 language model API to automatically create concise text summaries of these videos. This application aims to reduce information overload and improve user experience by making it easier to find and understand important information from videos. The research highlights the practical importance of integrating web technologies with artificial intelligence to organize content and enhance user interaction with digital media.

Email classifier using LLM

I developed an AI-driven email classification system to automate the process of routing emails to the appropriate departments based on message content. The solution addresses the challenge of managing large volumes of organizational emails, which often include ambiguous or multi-department topics. The system was implemented in three phases: First, I used machine learning models and NLTK libraries to extract and categorize keywords from email content. Next, I integrated advanced AI tools, including LLaMA and OpenAI's GPT models, to analyze these categories and assign emails to the correct departments based on their descriptions and acronyms. Finally, I incorporated a summarization feature powered by AI to enhance message clarity before routing. This system improves email processing efficiency and contributes to the broader field of natural language processing (NLP) by demonstrating real-world applications of cutting-edge AI technologies.

Journalist Agent

It is an AI-powered research tool with an interface where users can enter any topic of interest. The agent performs in-depth research on the given topic, analyzes historical discussions over multiple years, and generates a structured summary outlining what was said each year. Additionally, it provides the source links collected during the research process, ensuring transparency and verifiability of the information.

Education

2018 - 2022

University of Tetovo | Tetovo, North Macedonia
Bachelor degree
- *Bussines IT*

2023 - 2025

South East European University (SEEU) | Tetovo, North Macedonia
Master degree
- *Software Engineering*

Key skills and characteristics

- Ruby on Rails
- HTML - CSS
- Git
- Docker
- MySQL
- Wordpress
- AWS (EC2, S3, AWS Backups)
- OpenAI API
- QA
- CI/CD
- Render Cloud
- Linux
- ASP.NET
- Azure Devops
- Bitbucket
- SQL Server
- N8n
- LLM
- Critical thinking
- Adaptability
- Communication
- Problem Solving
- Albanian Language
- Macedonian Language
- English Language