Work experience

DOXXbet betting feed (at Codium)

Date: 2024-2025

Short description:

Collection of microservices designed to handle streams of data from betting providers, forming the backbone of the DOXXbet platform. This system provides all the necessary information for customers to place bets efficiently.

My role and contributions:

- Development and maintenance of backend **microservices** that **process betting data** from multiple providers and **expose this data** to the frontend via REST API or gRPC, where users can place betting tickets.
- **Collaborate** with **team members**, as well as **frontend developers** and **DevOps engineers**, to ensure smooth integration and deployment of new features.
- **Backend** and **frontend** work on an internal **backoffice** web application.
- Development and maintenance of internal **NuGet packages** shared across multiple services to ensure code consistency and reusability.

Used languages, software, tools and technologies:

Backend: **Microservices architecture, C#, ASP.NET Core, .NET Framework, MSSQL, Kafka, Redis, SignalR, Dapper, REST API, gRPC, ElasticSearch & Kibana, Prometheus & Grafana**

Others: **GitLab, TeamCity, Jira, Confluence**

Telematics (at Descartes)

Date: 2022-2024

Short description:

Web application which processes real time telematics data and provides API for the processed data as well as displays the processed data in various ways.

My role and contributions:

- Part of a team of around 8 people where I was working on **long-running project** focused on **processing and visualizing real-time telematics data**.
- Implementation of many features on an **interactive map** with various **animations and markers.**
- Implementation of various **charts**, **tables**, and **graphs**.
- **Agile environment** following the **SCRUM** methodology, participating in **daily stand-ups**, **sprint planning**, **retrospectives**, and **two-week sprints**.

Used languages, software, tools and technologies:

Backend: **Microservices architecture, REST API, C#, ASP.NET Core, Dapper, MSSQL**

Frontend: **JavaScript, HTML, CSS, MapLibre, C#, Razor pages**

Project management: **Azure DevOps Server (CI/CD, GIT, User Stories, Bugs)**

Projects

Physiotherapy studio information system

Date: 2023-2024

Short description:

Web application which consists of a dashboard for registered users and the owners and a public section. The app provides extensive functionality for managing reservations, clients, services and a blog. The dashboard also contains various charts useful for future decision making. On the public section, the application provides pages for information about provided services, a Google Maps location and Streetview integration and a reservation calendar where available appointments can be filtered and reserved. The solution is robust, offering a comprehensive set of tools to effectively handle the day-to-day operations of a physiotherapy studio.

My role and contributions:

This was a completely new project on which I worked alone as part of my diploma thesis.

Used languages, software, tools and technologies:

Backend: **Monolithic architecture, REST API, C#, ASP.NET Core, Entity Framework Core, MSSQL, SSMS, JWT**

Frontend: **TypeScript, Next.js (React), Tailwind CSS, NextAuth, ShadCn, Framer Motion, PrimeReact, Zod, react-hook-form, chart.js, CKEditor5, Zustand, JWT**

Deployment: **Dokploy**

Source Code:

Backend: https://github.com/MarekSutora/physio-backend

Frontend: https://github.com/MarekSutora/physio-frontend

Available at:

https://physio-app.ms-apps.online

Information system for a football club

Date: 2021-2022

Short description:

Desktop application for managing football matches and teams. The application provides functionality for adding football club's players and then handling the course of a football match. During the match the application splits into two parts: a control interface for managing match events (such as goals, substitutions, corner kicks, yellow/red cards...) and a separate display interface that shows the current score, match information and event animations on a big screen for viewers.

My role and contributions:

I continued a project started by the supervisor of my bachelor's thesis. I made many additions like handling animations of football events in real-time. I also added functionality for statistics and integration with an Oracle database for storing matches and clubs data.

Used languages, software, tools and technologies:

C#, .NET Framework, WinForms, Oracle SQL

Source code:

https://github.com/MarekSutora/Bc_Futbal

Hospital information system

Date: 2023

Short description:

Web application with dashboard for patients and hospital workers. The application provided functionality for handling appointments, storage of drugs, surgeries and hospitalizations.

My role and contributions:

It was a completely new project started as semester work for one of my university courses. We worked on this as a team of 5 where I mainly did the backend work but also helped with frontend a bit, mainly handling API calls and authorization with authentication there. My teammates then continued this project as part of their master's degree school project and their diploma thesis.

Used languages, software, tools and technologies:

Backend: **Monolithic architecture, REST API, Node.js, Express.js, JWT, Oracle SQL, SQL Developer, Toad Data Modeler, bcrypt, JWT**

Frontend: **JavaScript, React, CSS, PrimeReact, chart.js, react-hook-form, JWT**

Source code:

Backend and frontend: https://github.com/MarekSutora/MI_PDS_Semestralka

Decision Tree Visualization and Prediction Tool

Date: 2023

Short description:

A small, individual semester project focused on developing a web application for visualizing decision trees and making predictions using various machine learning models. The application allows users to upload a CSV dataset, select a model, and generate predictions, with an option to visualize the decision tree model.

My role and contributions:

I independently developed this project from scratch, implementing all aspects of the application. The work included designing and coding the backend in Python using Flask, integrating machine learning models from scikit-learn, and creating an interactive SVG-based decision tree visualization with features like zooming and dragging. The project was small in scope, yet it effectively demonstrated core concepts in machine learning and web development.

Used languages, software, tools and technologies:

Backend: **Python, Flask, scikit-learn, Graphviz**

Frontend: **JavaScript, HTML, CSS**

Source code:

https://github.com/MarekSutora/SSBU_DecisionTreeWebApp

Movie Search Web Application

Date: 2024

Short description:

The application allows users to search for movies, view detailed information, and manage a list of favorites. The system integrates with the OMDB API and offers an intuitive user interface optimized for both desktop and mobile devices.

My role and contributions:

This is a small project made by me alone. The application includes search functionality with infinite scrolling, integration with the OMDB API, and local storage management for saving favorite movies. The responsive design and lazy loading techniques ensured smooth performance, while React Query managed API data and caching effectively.

Used languages, software, tools and technologies:

Frontend: **React, TypeScript, Chakra UI, React Query, Jotai, React Router, SCSS, Vite**

Deployment: **Dokploy**

Source code:

https://github.com/MarekSutora/movie-database

Available at:

https://movie-db.ms-apps.online

Microfluidics simulations

Date: 2023-2024

Short description:

It is a long-running project focused on simulations of cell transitions through various types of microchannels to observe and analyse their behaviour. The project has achieved several academically significant results. For these simulations, the tool ESPResSo is extensively used to model and analyze the fluid dynamics within the microchannels.

My role and contributions:

I was responsible for modifying an existing Python library that was originally developed by faculty staff (professors, PhD students, etc.) using object-oriented programming principles. This library serves as an extension of the ESPResSo tool. Additionally, my tasks included creating simulation scripts in Python, running these simulations and evaluating the results of the completed simulations.

Used languages, software, tools and technologies:

Python, ESPResSo, ParaView

Portfolio Website

Date: 2024

Short description:

A personal portfolio website showcasing my projects, skills, and experience. It features a dark theme, animations, and a responsive design.

Used languages, software, tools and technologies:

Next.js, React, TypeScript, Tailwind CSS

Source code:

https://github.com/MarekSutora/MarekSutoraSK

Available at:

https://mareksutora.sk/