Rafał Sak

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GitHub: https://github.com/RafalSa

Professional Summary

Ambitious and highly motivated junior developer with a background in automation, electronics, and maintenance. Currently pursuing a degree in programming with a strong interest in Data Science and software development using Python and C#. Experienced in working in industrial environments, problem-solving, and managing projects independently. Actively building technical skills through personal and open-source projects.

Skills

- **Programming**: Python, C#, SQL (★★★☆☆)
- **Frameworks & Tools**: Django, .NET (WinForms, WPF), ASP.NET, Git/GitHub (★★★☆☆)
- **Frontend (basic knowledge)**: HTML, CSS, JavaScript (★☆☆☆☆)
- **Data Science**: pandas, NumPy (★★☆☆☆)
- **APIs**: REST API integration, requests, JSON handling (★★☆☆☆)
- **Databases**: SQLite, PostgreSQL/MySQL (basics) (★★☆☆☆)
- **Dev Tools**: Visual Studio, Jupyter Notebooks, VS Code (★★★☆☆)
- **Security**: SHA256/SHA512 hashing, salting, password verification (★★☆☆☆)

Education

WSB University Merito Chorzów
Engineering in Programming (Oct 2023 – Present)

Nikola Tesla Mechanical and Electrical Technical School, Chorzów
Specialization: Mechatronics (Sep 2017 – Apr 2021)

Languages

- Polish: Native
- English: Intermediate
- German: Basic

Projects

Explore selected projects on GitHub: https://github.com/RafalSa

SmartHomeAssistant (Python, modular architecture, voice commands)

- A modular voice-controlled smart home assistant capable of recognizing natural language commands and executing tasks.
- Implemented intent recognition, device control, and voice utilities as independent modules for clean architecture.
- Integrated speech recognition libraries (Python SpeechRecognition, PyAudio) for real-time command handling.
- Designed intent mapping for flexible user interactions without manually defining all possible phrases.
- Supported command execution for smart home actions (lights, blinds, locks, heating).
- Showcased skills in modular programming, API integration, and user-centered interaction design.

CMMS by RafalS (Python, customtkinter GUI, SQLite)

- A Computerized Maintenance Management System desktop application for managing failures, daily tasks, inventory, and reports.
- Developed a multi-module structure including: login, daily tasks, failure reporting, parts inventory, and reports/statistics.
- Built a modern GUI with customtkinter (rounded corners, clean design) for user-friendly navigation.
- Implemented failure reporting with shift selection, separate date and time fields, and history view.
- Designed and initialized an SQLite database using a custom setup_db.py script.

- Enabled CRUD operations (create, read, update, delete) across multiple modules with persistent storage.

EuroExplorer (C#, WinForms, WebView2, SQLite, JSON)

- A desktop travel assistant app for exploring Europe with secure authentication, map integration, and live data.
- Implemented secure login with salted & hashed password verification.
- Added editable user profiles (username, password, profile picture).
- Integrated interactive world map via Google Maps (WebView2).
- Fetched live weather data and geolocation data from device sensors.
- Built booking functionality for top 5 most popular destinations per country using Booking.com and Airbnb.
- Integrated a custom API for handling chat features within the app.
- Used SQLite and JSON for persistent storage of user and application data.

Data Science Notebooks (Python, pandas, matplotlib, scikit-learn)

- A set of Jupyter notebooks demonstrating applied data science and machine learning.
- Performed exploratory data analysis (EDA) on real-world datasets.
- Implemented preprocessing techniques: missing value handling, normalization, feature engineering.
- Built models with scikit-learn for classification, regression, and clustering tasks.
- Visualized results with matplotlib and pandas for clear presentation.
- Applied classical statistics and probability (Bayes' theorem, conditional probability) in practical use cases.

Interests

Automotive, Cryptocurrencies, Travel, Technology, Programming.