Bartłomiej Kózka

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PROFFESIONAL EXPERIENCE

HID Global - Firmware Engineer Intern

- **Signo Reader** project - secure access control software.
- Actively contributed to the full Scrum development cycle. **Implemented** inter-process communication using Protocol Buffers. **Designed and Implemented** continuous integration (CI) pipelines.
- Technologies: C/C++, Python, UNIX, unit testing (CUnit), functional testing (pytest), docker, jenkins, low-level design

EDUCATION

The AGH University of Krakow October 2022 - Present
B.Sc. **Data Science**, 3-year GPA **4.75 / 5.0**

PERSONAL PROJECTS

Barkoz Tempo - Chess Engine 2025
Link https://github.com/bartlomiejkozka/Barkoz-Tempo

- Currently developing a **C++** chess engine based on the **Minimax algorithm** with **Alpha-Beta pruning** and **bitboard representation** for efficient state encoding.

Gear shift decision maker - Gear shift decision maker based on AI Fuzzy Logic algorithm 2025
Link https://github.com/bartlomiejkozka/Gear-shift-FuzzyLogic

- Designed and implemented an AI-based fuzzy logic system in C++ to simulate automatic gear shifting in vehicles based on real-time inputs such as velocity, RPM, and throttle level, building a rule-based decision-making engine with defuzzification techniques to model realistic driving behavior and visualize gear transitions under various conditions.

Tiny Compiler - Pseudo-code compiler 2024
Link https://github.com/bartlomiejkozka/teeny-tiny-compiler

- Developed a lightweight pseudo-code compiler application using **Python** and **FastAPI** framework, structured as a REST API with integrated database functionality. Enables users to learn coding by writing, compiling, and executing pseudo-code, with the ability to save and manage scripts within their personal accounts

Data Science

Analysis of Bicycle Traffic on the Fremont Bridge in Seattle 2025
Link https://github.com/bartlomiejkozka/Fremont-bike-analysis

- Analyzed bicycle traffic data from Seattle's Fremont Bridge using **Python (pandas, matplotlib, seaborn)** to identify temporal patterns and effectively communicate insights through visualizations.

Brenna Meteorological Data - EDA 2025
Link https://github.com/bartlomiejkozka/Brenna-meteorology-2020

- Performed exploratory data analysis on 2020 weather data from Brenna using pandas, matplotlib, seaborn to uncover seasonal patterns, correlations, and anomalies in temperature, humidity, and precipitation.

HACKATHONS

HackYeah Krakow 2024

- Co-developed a wellness application - Sleep Diary, focused on analyzing sleep patterns to improve sleep quality.

SKILLS

Python, R, C, C++, Bash, Algorithms and Data Structures, Data analysis & visualization, Feature engineering, Exploratory Data Analysis, Machine learning, Predictive analytics (regression, classification), Unsupervised learning (clustering) Multi-Threaded Programming, UNIX Systems, TCP, UDP, Sockets and Networking Protocols, POSIX Libraries, gtest, CUnit, Docker, Jenkins, CMake, OOP and Design Patterns, Git, SonarQube Agile, Scrum, Jira, Ability to work on and debug unfamiliar code

LANGUAGES

English (B2), Polish (Native)

AGREEMENTS

I agree to the processing of personal data provided in this document for realising the recruitment process pursuant to the Personal Data Protection Act of 10 May 2018 (Journal of Laws 2018, item 1000) and in agreement with Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).