Matěj Konopík

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Education

M.Sc. in Software Engineering, Faculty of Informatics, Masaryk University (2024 - Present)

- Personal focus on distributed systems, data engineering, and software architecture.
- Upcoming Erasmus+ exchange in Spring 2025 at HTWG Konstanz, aiming to join a research project in the Ubiquitous Computing Lab.

B.Sc. in Computer Science, Faculty of Information Technology, Brno University of Technology (2020 - 2023)

- Bachelor's thesis: Developed a testing framework for processing large-scale image datasets to detect regression and performance issues in software.
- Continued with M.Sc. in Machine Learning & Testing at this university but withdrew due to health and personal reasons.

Experience

Software Engineer & Test Automation Engineer, Zoner A.S. (2021 - Present, Brno)

- Developed a Python-based testing framework to analyze large image datasets for regression and performance analysis in Zoner Photo Studio (as part of bachelor's thesis).
- Created a C# plugin for Zoner Photo Studio X to integrate Loupedeck hardware, utilizing WebSocket communication and user experience-focused design.
- Worked with Python and C++ for test automation and data processing.

Skills

Programming Languages: Python, Go, Rust, C#, C/C++, SwiftUI

Frameworks & Tools: Git, REST APIs, WebSockets, Agile methodologies

Data & ML Tools: Pandas, NumPy, PyTorch

Software Architecture: Clean Architecture, Domain-Driven Design (DDD), Event Storming, Microservices, Event-Driven Architecture

Areas of Interest:

- Distributed systems and data processing
- Machine learning and deploying ML models
- Software architecture and design patterns
- Blockchain technologies
- Open to exploring new and impactful fields

Soft Skills:

- Experience leading teams in school projects
- Strong collaboration skills with fellow developers
- Interested in entrepreneurship and technology transfer

Selected Projects

P2P File Sharing System in Rust (2023 - Present)

- Currently developing a peer-to-peer file-sharing application using Rust, based on the Kademlia DHT protocol for decentralized data sharing.

Testing Framework for Zoner Photo Studio X (2023)

- Developed a Python-based testing framework to process large image datasets for regression and performance analysis.

Loupedeck Plugin for Zoner Photo Studio X (2022 - 2023)

- Created a C# plugin integrating Loupedeck hardware with ZPS X, utilizing WebSocket communication for real-time interaction with focus on usability.

Tattoo Finder iOS App (2022)

- Designed and developed an app in SwiftUI to help users discover tattoo designs and artists.
- Utilized Firebase for backend services and localization features.
- Code

CO2 Emission Spread Simulator (2021)

- Developed a box-based model and simulator in C++ for visualizing CO2 emission spread.
- Demo, Code

ESP32 Thermometer App (2021)

- Created a simple thermometer application using an ESP32 microcontroller.
- Demo

Other Projects

- Implemented Go projects related to finance and security, emphasizing concurrent programming and reliability.
- Developed an open source Python script for uploading GTFS data to Neo4j DB while ensuring correct graph structure. Code
- Various school projects in machine learning, computational optimization, statistics, and networks are available on my GitHub.

Research Interest

I am keen to contribute to research projects, lately I find myself interested in distributed systems, data engineering, and machine learning opportunities. My upcoming Erasmus+ exchange at HTWG Konstanz offers an excellent opportunity to engage with the Ubiquitous Computing Lab and work on cutting-edge topics from it’s offering. I’m always open to opportunities that have a significant global impact.

Personal Interests

- **Blockchain Technologies:** Following developments in blockchain technology with a focus on privacy (e.g., the Monero project).
- **Sailing:** Enthusiastic about both competitive and recreational sailing.