Mihaly Katona

Python Developer
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SUMMARY

Electric engineer transitioning into Python software development, with a strong foundation in optimisation tasks and data-driven modelling. Proficient in Python with experience in developing simulations and automation scripts. Adept in identifying trends and data patterns in complex data sets, with a strong problem-solving ability to drive innovation and solve real-world problems.

SKILLS

- **Optimisation, Modelling & Automation:** Python (Multiprocessing, pymoo, py2femm)
- **Analytics:** Pandas **(**Data Processing), Matplotlib, Seaborn (Data Visualisation)

PROJECTS

Simulation Tool Development - Tkinter (User Interface), Matplotlib (Data Visualisation) January 2025

- Automated torque calculations with py2femm and multiprocessing packages.
- Optimised user interaction with a user interface for simulation initialisation.
- Applied exception handling to manage errors in user inputs.

Game Development - Jira, Confluence (Project Management), TeamCity (CD/CI), Git, Github (Version Control) May 2025

- Developed a game similar to The Password Game in a team to mock a software development process.
- Applied unit testing techniques to ensure game stability and reliability.
- The project provided hands-on experience in planning, designing, and implementing a structured software system.

Data Analysis - Skicit-learn (Machine Learning), Matplotlib (Visualisation), Data Processing **(**Pandas) November 2024

- Implemented Deceision Tree Regression and Random Forest Classifier to predict wine quality.
- Refined the dataset based on correlation matrices to select important features.
- Implemented quality measures to check the effectiveness of predictions.

EXPERIENCE

Robert Bosch Hungary **Budapest, Hungary**
System Development Engineer September 2021 - current

- Lead a team of three for two years in developing innovative electric motors to fully reduce dependence on permanent magnets.
- Analysing drivetrain trends in electric vehicles, identifying market gaps and supporting drivetrain development.
- Representing the company at three conferences yearly by presenting my research on optimising electric motors.
- Earned 9th place out of 104 participants in inhouse Python programming challenge.

NCLab **Remote**
Upskilling through Career Training October 2024 - December 2025

- Prepared for roles in software development through the Beginner Python Developer career training program.
- Created an automated torque calculation software with a user interface while contributing to py2FEMM package.

EDUCATION

PhD Degree, Informatics **Győr, Hungary**
Széchenyi István University September 2022 - current

- Developing a data-driven optimisation framework for synchronous reluctance motors.
- Enhancing communication skills through academic publishing and conference presentations.
- Building effective collaboration skills by coordinating research with supervisors and research teams.

CERTIFICATIONS

- Beginner Python Developer Career Training (NCLab) January 2025
- Certified Beginner-Level Python Programmer (PCEP) December 2024