Lilla Kisbenedek

Magyarország, Budapest

kisbenedek.lilla@uni-obuda.hu | https://github.com/kisblilla | Kisbenedek Lilla

Personal Profile

Lilla Kisbenedek earned her BSc degree in Chemical Engineering at the Budapest University of Technology and Economics in 2022, and got her MSc in Computer Science Engineering at Óbuda University with biomedical specialization in 2024. Since 2023, she is working in the Physiological Controls Research Center. She is an IEEE member.

Education

Óbuda University *Budapest*

MSc in Computer Science Engineering *2022-2024*

- Specialization in Medical Engineering Informatics
- **Key courses:** Application of Biostatistical Methods, Image Processing, Medical Imaging, Critical Evaluation of Medical Research, Cloud Computing, Applied Mathematics

Budapest University of Technology and Economics *Budapest*

BSc in Chemical Engineering *2017-2022*

- Specialization in Polymer Chemistry
- **Key courses:** Physical Chemistry I-II, Polymer Processing, Plastics, Organic Chemistry I-II

Szilágyi Erzsébet High School and Dormitory *Eger*

High School Diploma *2013-2017*

- Specialization in Chemistry and Mathematics

Awards

2024/I **1st Place at the Scientific Students' Association Conference**,
2024 **1st Place at the IEEE Student Paper Contest**,
2023 **Winner of the New National Excellence Program Scholarship**,
2023 **Winner of the National Higher Education Scholarship**,
2023/II **2nd Place at the Scientific Students' Association Conference**,
2023/I **3rd Place at the Scientific Students' Association Conference**,

Work Experience

Physiological Controls Research Center *Budapest, Hungary*

Research Intern *March 2023 - Present*

The research group focuses on therapy optimization for patients with cancer. My task is to determine tumor model parameters using artificial intelligence tools such as clustering algorithms and machine learning algorithms (neural networks, autoencoders).

Óbuda University, John von Neumann Faculty of Informatics *Budapest, Hungary*

Teaching Assistant *September 2023 - Present*

Conducting practice tasks and developing course materials for System Theory and Control Engineering subjects.

GE HealthCare *Budapest, Hungary*

Software Testing Intern *February 2022 - September 2022*

Writing automated tests in Java for the deployment of medical informatics software. Automated testing of Kubernetes processes using the Cucumber framework.

Samsung SDI *Göd, Hungary*

Process Engineer *October 2021 - November 2021*

Monitoring and analyzing manufacturing process errors on the production line.

MIKROPAKK *Budapest, Hungary*

Quality Engineer Intern *June 2020 - September 2020*

Gage R&R (Repeatability and Reproducibility) analysis of injection molding machines.

University Projects

Investigation of the Flammability of Polymer Composites Using Artificial Intelligence *Budapest, Hungary*

Budapest University of Technology and Economics, Faculty of Mechanical Engineering, Department of Polymer Technology *Feb 2021 - Apr 2022*

- The topic of my BSc thesis was predicting the flammability of carbon fiber polymer composites from molecular structural properties using a neural network.
- **Technology:** Tensorflow, Numpy

Skills

Programming & frameworks Python (Pandas, PyTorch, NumPy, Scikit-learn, TensorFlow, stb.), R, C#, HTML/CSS, SQL

Other technological skills Linux, Shell (Bash/Zsh), Kubernetes, Jenkins, Cucumber, Vue.js, LaTeX (Overleaf/R Markdown), Microsoft Office, Firebase, Git,

Soft Skills Problem solving, Creativity.

Publications

Journal publications

Chemotherapy optimization and patient model parameter estimation based on noisy measurements
B. Gergics, M. Puskás, L. Kisbenedek, M. Dömény, L. Kovács, D. A. Drexler
Acta Polytechnica Hungarica, 2024

Book chapter

Recent Advances in Intelligent Engineering
D. A. Drexler, M. Dömény, T. Ferenci, B Gergics, L. Kisbenedek, M. Puskás, T. D. Szűcs, L. Kovács
Springer, 2024

Conference article

Clustering-based parameter estimation of a tumor model.
Lilla Kisbenedek, Melánia Puskás, Levente Kovács, Dániel András Drexler
IEEE 21st International Symposium on Intelligent Systems and Informatics (SISY 2023), 2023

Anomaly detection of time series containing tumor volumes
Lilla Kisbenedek, Melánia Puskás, Levente Kovács, Dániel András Drexler
IEEE 11th International Conference on Computational Cybernetics and Cyber-Medical Systems (ICCC 2024), 2024

Noise reduction with wavelet transform for clustering time series of tumor volumes
Lilla Kisbenedek, Melánia Puskás, Levente Kovács, Dániel András Drexler
In IEEE 18th International Symposium on Applied Computational Intelligence and Informatics (SACI 2024), 2024

Languages

English IELTS International Language Exam - C1

Magyar Native