

SHORT BIO	I completed my B.Sc. in Chemical Engineering at the Budapest University of Technology and Economics in 2021. In 2024, I got my M.Sc. in Computer Science Engineering with a specialization in Biomedical Engineering at Obuda University. Since the beginning of 2023, I have been working at the Physiological Controls Research Center.	
EDUCATION	Obuda University	Budapest, Hungary
	<i>Ph.D. in Applied Informatics and Applied Mathematics</i>	2024 – present
	<ul style="list-style-type: none"> I am currently in my second semester. My research focuses on tumor modeling and parameter estimation of physiological models, in connection with my work at PhysCon. 	
	Obuda University	Budapest, Hungary
	<i>M.Sc. in Computer Science Engineering</i>	2022 – 2024
	<ul style="list-style-type: none"> Specialization: Biomedical Engineering. Key Courses: Biostatistical Methods, Critical Evaluation of Medical Research, Image Processing, Medical Imaging, Applied Mathematics. 	
	Budapest University of Technology and Economics	Budapest, Hungary
	<i>B.Sc. in Chemical Engineering</i>	2017 – 2021
	<ul style="list-style-type: none"> Specialization: Polymer Chemistry. Key Courses: Physical Chemistry I-II, Polymers, Organic Chemistry I-II. 	
	Szilágyi Erzsébet High School	Eger, Hungary
	<i>High School Diploma</i>	2013 – 2017
	<ul style="list-style-type: none"> Specialization in Chemistry and Mathematics. 	
AWARDS	<ul style="list-style-type: none"> 3rd Place at the Scientific Student Conference on Technical Sciences (MTDK), 2025. 3rd Place at the National Student Scientific Contest (OTDK), 2025. 2nd Place at the Scientific Association for Infocommunications Thesis Award, 2025. 1st Place at the Student Scientific Contest (TDK) at Obuda University, 2024. 1st Place at the IEEE Student Paper Contest, 2024. Winner of the New National Excellence Program Scholarship, 2023. Winner of the National Higher Education Scholarship, 2023. 	
WORK EXPERIENCE	Research Intern	Budapest, Hungary
	<i>Physiological Controls Research Center</i>	2023 – present
	<ul style="list-style-type: none"> Focus: Parameter estimation in tumor models and evaluation of tumor measurements using AI tools (e.g., autoencoders, physics-informed neural networks, clustering algorithms) and statistical methodologies (e.g., MCMC, NLME). 	
	Teaching Assistant	Budapest, Hungary
	<i>Obuda University, John von Neumann Faculty of Informatics</i>	2023 – present
	<ul style="list-style-type: none"> Course: Control Theory. Teaching the practical courses, focusing on continuous and discrete LTI systems, state-space representations, stability analysis (Bode plots). Course: Introduction to Health Economics. Responsible for lectures on Markov models, decision trees, and healthcare outcomes. 	

Software Testing Intern	Budapest, Hungary
<i>GE Healthcare</i>	2022
<ul style="list-style-type: none"> • <i>Developed automated tests for medical software deployment using Java and Cucumber.</i> 	
Process Engineer	Göd, Hungary
<i>Samsung SDI</i>	2021
<ul style="list-style-type: none"> • <i>Monitored and analyzed manufacturing process errors on the production line.</i> 	

PROJECTS	Investigation of Polymer Flammability Using AI, Budapest	
	<i>University of Technology and Economics</i>	2021 – 2022
<ul style="list-style-type: none"> • <i>Developed neural networks to predict carbon fiber composite flammability based on molecular structures and flammability properties.</i> • <i>Part of this thesis work has been published (here).</i> 		

SKILLS	<i>Programming:</i> Python (Pandas, PyTorch, NumPy, TensorFlow, DeepXDE, etc.), R, Julia, Matlab, C# and C.	
	<i>Tools:</i> Linux, Shell (Bash/Zsh), Kubernetes, Jenkins, Cucumber, Vue.js, LaTeX, R Mark-down, Git.	
	<i>Soft Skills:</i> Problem solving, creativity, hard working.	

OTHER POSITIONS	Vice Chair	
	IEEE Hungary Section Women in Engineering Affinity Group (2025 –)	

LANGUAGES	English: C1 Proficient (IELTS)	
	Hungarian: Native.	

PUBLICATIONS	Journal Articles:	
	<ul style="list-style-type: none"> • B. Gergics, M. Puskás, L. Kisbenedek, M. Dömény, L. Kovács, and D. A. Drexler. “Chemotherapy Optimization and Patient Model Parameter Estimation Based on Noisy Measurements”. <i>Acta Polytechnica Hungarica</i> 21.10 (2024), pp. 475–494. DOI: 10.12700/aph.21.10.2024.10.29 	
	Book Chapters:	
	<ul style="list-style-type: none"> • D. A. Drexler, M. F. Dömény, T. Ferenci, B. Gergics, L. Kisbenedek, M. Puskás, T. D. Szücs, and L. Kovács. “Cyber-Medical Systems in Chemotherapy Treatment Optimization”. <i>Recent Advances in Intelligent Engineering</i>. Springer Nature Switzerland, 2024, pp. 245–269. DOI: 10.1007/978-3-031-58257-8_13 	
	Conference Proceedings:	
	<ul style="list-style-type: none"> • L. Kisbenedek and D. A. Drexler. “Physics-informed neural network for parameter identification of a tumor model”. <i>2nd IFAC Workshop on Control of Complex Systems (COSY)</i>. Accepted. 2025 • L. Kisbenedek, M. Puskás, D. A. Drexler, and L. Kovács. “Autoencoder-Based Architecture for Parameter Estimation of a Tumor Model”. <i>2024 IEEE 24th International Symposium on Computational Intelligence and Informatics (CINTI)</i>. IEEE, 2024, pp. 215–220. DOI: 10.1109/cinti63048.2024.10830847 	

- L. Kisbenedek, M. Puskás, L. Kovács, and D. A. Drexler. “Anomaly Detection of Time Series Containing Tumor Volumes”. *2024 IEEE 11th International Conference on Computational Cybernetics and Cyber-Medical Systems (ICCC)*. IEEE, 2024, pp. 000067–000072. DOI: 10.1109/iccc62278.2024.10582921
- L. Kisbenedek, M. Puskás, B. Gergics, L. Kovács, and D. A. Drexler. “Noise Reduction with Wavelet Transform for Clustering Time Series of Tumor Volumes”. *2024 IEEE 18th International Symposium on Applied Computational Intelligence and Informatics (SACI)*. 2024, pp. 000339–000344. DOI: 10.1109/SACI60582.2024.10619803
- L. Kisbenedek, M. Puskás, L. Kovács, and D. A. Drexler. “Clustering-Based Parameter Estimation of a Tumor Model”. *2023 IEEE 21st Jubilee International Symposium on Intelligent Systems and Informatics (SISY)*. 2023, pp. 000043–000048. DOI: 10.1109/SISY60376.2023.10417896
- L. Kisbenedek, M. Puskás, L. Kovács, and D. A. Drexler. “Indirect supervised fine-tuning of a tumor model parameter estimator neural network”. *2023 IEEE 17th International Symposium on Applied Computational Intelligence and Informatics (SACI)*. 2023, pp. 000109–000116. DOI: 10.1109/SACI58269.2023.10158651