Klavdiia Naumova

EDUCATION

Swiss Federal Institute of Technology in Lausanne (EPFL) **09 2021 – 07 2023**
*MSc in Life Sciences Engineering, Minor in Data Science - **GPA** - **5.2 (max. 6.0)*** *Lausanne, Switzerland*

Moscow State University (MSU) **09 2015 – 06 2021**
*Specialist degree in Fundamental and Applied Chemistry - **GPA** - **5.0 (max. 5.0)*** *Moscow, Russia*

RELEVANT COURSES

- Analysis
- Linear Algebra
- Probability theory and statistics
- Machine Learning
- Deep Learning
- Optimization for Machine Learning
- Applied Data Analysis
- Applied Biostatistics
- Natural Language Processing
- Image Processing
- Image Analysis and Pattern Recognition
- New tools & research strategies in personalized health
- Chemical foundations of biological processes

MASTER THESIS

Machine Learning and Optimization Laboratory, intelligent Global Health Group, EPFL **02 2023 – 07 2023**
inDISCO: interpretable DIStributed COllaborative learning for biomedical images

SEMESTER PROJECTS

iGH/MLO EPFL **09 2022 – 01 2023**
xDISCO: eXplainable DIStributed COllaborative learning for images

MicroBioRobotic Systems Laboratory, EPFL **02 2022 – 06 2022**
Optical Elastography Pipeline for Shear Modulus Calculation

COURSE PROJECTS

Machine learning: Detection of traffic cones coordinates using neural networks **12 2021**

Applied data analysis:
Understanding vegetarianism and veganism through the media using sentiment analysis **12 2021**

Deep Learning: Image denoising using Noise2Noise neural network **05 2022**

Natural language processing: Developing language models for digital educational assisting **06 2023**

OTHER RESEARCH EXPERIENCE

Laboratory of Surface Phenomena in Polymer Systems **10 2015 – 06 2021**
Institute of Physical Chemistry and Electrochemistry
Russian Academy of Science (IPCE RAS)
Synthesis of silica nanocontainers for drug encapsulation

Laboratory of Biologically Active Organic Compounds, MSU **10 2017 – 05 2018**
Synthesis of a 2-thiohydantoin derivative for cancer treatment

CONFERENCES

EPFL Engineering Industry Day 2023 **03 2023**
xDISCO poster presentation *Lausanne, Switzerland*

INTERNSHIPS

iGH/MLO EPFL **08 2023 – 02 2024**
Research Intern *Lausanne, Switzerland*

Nanolive SA **07 2022 – 09 2022**
Deep Quantitative Biology Intern *Tolochenaz, Switzerland*

OTHER WORK EXPERIENCE

Student Assistant at the CS-433 Machine learning course (EPFL) **09 2022 – 01 2023**
Student Assistant at the MATH-205 Analysis IV course (EPFL) **02 2022 – 06 2022**
Laboratory Assistant (IPCE RAS) **07 2019 – 06 2021**
Laboratory Technician (IPCE RAS) **06 2018 – 07 2019**

TECHNICAL SKILLS

Python (PyTorch, Scikit-learn, Pandas, OpenCV), R, Scala, HTML, CSS, Git, LaTeX, VS Code, Jupyter, Fiji, Fusion360

LANGUAGES

English: advanced, IELTS 8.5
French: intermediate
Russian: native

PUBLICATIONS

1. K.Naumova et al. / My-This-Your-That—Interpretable Identification of Systematic Bias in Federated Learning for Biomedical Images / Submitted to Nature Communications. Preprint available at https://klavdiian.github.io/

2. E. Ozelci et al. / Mechanical characterization of biological samples using robot-assisted optical microelastography / MARSS, July 25–29, 2022, Toronto, Canada

3. K. Naumova et al. / Mesoporous silica particles based on complex micelles of poorly water-soluble compounds. One simple step to multidrug carriers / Microporous Mesoporous Mater. 2021. V. 316. P. 110911. DOI: 10.1016/j.micromeso.2021.110911

4. O.V. Dement'eva et al. / Drug-templated mesoporous silica nanocontainers with extra high payload and controlled release rate / Colloids Surf., B. 2020. V. 185. P. 110557. DOI: 10.1016/j.colsurfb.2019.110577

5. K. Naumova et al. / Solubilization as a Method for Creating Hybrid Micellar Templates for the Synthesis of Multifunctional Mesoporous Containers / Colloid J. 2019. V. 81. No. 4. P. 416. DOI: 10.1134/S1061933X19040094

6. O.V. Dement'eva et al. / Sol–gel synthesis of mesostructured SiO2 containers using vesicles of hydrolyzable bioactive gemini surfactant as a template / Colloid J. 2017. V. 79. No. 4. P. 451. DOI: 10.1134/S1061933X17040020