Serli Kopar

Second year FOKUS Life Sciences M.Sc.



📮 PERSONAL DATA

- **♣** Born on 05/05/2000 | Age 24
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- **in** serli-kopar
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🔁 LANGUAGES

- Turkish Native Language
- German C1 DSD2: 90/96
- 🦀 English C1 TOEFL: 106/120
- Russian B1 University Certification
- Spanish B1 University Certification

🌄 AWARDS / HONOURS

- DAAD Full Scholarship 10/19 -/10/22
- National Chemistry Olympiad in Turkey Third place in the district 25/10/18
- Undergrad Rostock Scholarship 07/18

CERTIFICATES

- R for Programmers
- Visualize and Analyze Data with Python
- Command Line Linux and Python 3
- Introduction to Genomic Technologies
- Python for Genomic Data Science
- Whole Genome Sequencing of Bacterial
- **Genomes Tools and Applications**

EDUCATION

2022-

Ongoing



Master's Degree University of Würzburg

Faculty of Biology and Computer Science

International FOKUS Life Sciences Fast-track M.Sc. & Ph.D.

Minor in Computer Science - since 04/2023

Selected Lectures: Single Cell Sequencing, Machine Learning for Natural Language Processing, Graph Neural Networks, Data Mining, Reinforcement Learning for Decision Making & Optimal Control

Current GPA: 4.0/4.0

2019-2022

FAU

Bachelor's Degree University of Erlangen-Nürnberg

Faculty of Medicine

Molecular Medicine Selected Lectures: Microbiology, Immunology and Virology, Neurophysiology and Neuroanatomy, Human Genetics, Biometry and Epidemiology, Pharmacology and Toxi-

Q RESEARCH ACTIVITIES

12/23-Today ichnical niversity Munich

AI Tutor Technical University of Munich

• remote

♥ Würzburg, Germany

♥ Erlangen, Germany

Pivotal role in a statewide educational initiative

As an AI Tutor at the Technical University of Munich, I finetuned a local Mistral 7B model to create a chatbot for physiochemistry lectures and medical case assistance. I also enhanced educational experiences by enriching course materials, creating quizzes, developing multimedia resources, and organizing workshops and events.

08/23-Today



Internship & Master's Thesis ♀ Würzburg Max Planck Research Group for Systems Immunology

ML in Single cell RNA-sequencing

Prof. Dr. rer. nat. Dominic Grün - My project benchmarks single-cell sequencing methods by developing algorithms with Graph Neural Networks (GNNs) and Natural Language Processing (NLP). It enhances latent space representations to integrate spatial data, focusing on explainable AI for better analysis of cellular heterogeneity and gene expression patterns.

09/22-05/23



Three Internship Rotations **♥** Würzburg Helmholtz Institute for RNA-based Infection

Nanopore sequencing and CRISPR ML applications

Prof. Dr. Antoine-Emmanuel Saliba - Bioinformatical Analysis of Single Cell Sequencing Data

Jun.-Prof. Dr. Lars Barquist - Developement of automated machine learning prediction models to quantify bacterial CRISPRi guide efficiency

Jun.-Prof. Dr. Redmond Smyth -Nanopore Sequencing of Vaccinia, Comparative Bioinformatical Analysis of Flongle vs Minion Cells

10/21-08/28



Bachelor's Thesis

& Student Laboratory Assistant **♀** Erlangen Virological Institute of the University Hospital

Cancer drugs repurposing

Prof. Dr. rer. nat. Manfred Marschall- Developement of experimental approaches to exploit the cytomegalovirus nuclear egress complex as an antiviral target

05/21-12/20

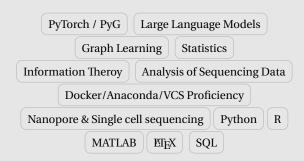


Student Research Assistant ♀ Erlangen Institute of Mathematics - Chair of Analytics Mixed-Integer Optimization

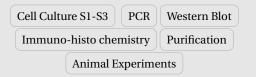
COVID 19 data mining

Dr. Bismark Singh- Implementation of mathematical models to investigate equitable allocation of vaccines for Covid-19 strategies

COMPUTATIONAL SKILLS



🚨 LAB SKILLS



PUBLICATIONS

An antiviral targeting strategy based on the inducible interference with cytomegalovirus nuclear egress complex Kicuntod, J., Häge S., Lösing J., Kopar S. , Muller Y.A., Marschall Manfred, April 2023,DOI: 10.1016/j.antiviral.2023.105557

The Oligomeric Assemblies of Cytomegalovirus Core Nuclear Egress Proteins Are Associated with Host Kinases and Show Sensitivity to Antiviral Kinase Inhibitors, May 2022, DOI: 10.3390/v14051021

△ EXTRA-CURRICULARS

- PASCH Alumni Association Elected Speaker PASCH Mentoring-Program - since 05/22
- **European Engineering Learning Innovation** Science Alliance Board Member - since 04/21
- DAAD Online Event Organisator
- Studenten bilden Schüler e.V. 05/21-08/22 Teaching students with migration background
- Commission for Internationalization SS 22

₹ REFERENCES

- Prof. Dr. Dominic Grün, dominic.gruen@uni-wuerzburg.de
- Prof. Dr. Ingo Scholtes, ingo.scholtes@uni-wuerzburg.de
- Prof. Dr. Manfred Marschall, manfred.marschall@fau.de

(WORK EXPERIENCE

10/23-Today

WÜSI

Research Assistant Max Planck Research Group for Systems Immunology

♀ Würzburg

Main Method: Mice Genotyping

Assisting senior researchers with mouse and transduction exper-

10/23-04/24



Teaching Assistant University of Würzburg

♀ Würzburg

Main Method: Grading students based on weekly assign-

Lecture Series "Methods in Life Sciences" for Bio-sciences Master Students

10/22-01/24



Student Assistant in Diagnostics University Hospital Würzburg

♀ Würzburg

Main Method: ELISA and PCR

Testing swap, blood and urin samples of patients for diagnosis and clinical studies

04/22-09/22

FAU

Research Data Analyst Erlangen Institute for Medical Informatics, Biometry and Epidemiology (IMBE)

Main Method: MatLab + RStudio

Prof. Dr. rer. nat.Olaf Gefeller-Developement of connected models and investigation of epidemiological risk concepts for clinical studies

04/22-09/22



Teaching Assistant Emil Fischer Centre

♀ Erlangen

Grading students based on weekly assignments Lecture Series "Biochemistry 1 and 2" for Medical Students

02/21-04/21

KAR W

Student Assistant **Karow Lab**

♥ Erlangen

Concentrating predominantly on organoid growth Prof. Dr. rer. nat. Marisa Karow- Study of new molecular targets for navigating and correcting defective neurogenesis

■ INVITED TALKS & WORKSHOPS

Level Up Your Machine Learning: Hands-on Exploration of Linear Models to Deep Learning @Max Planck Systems Immunology lab retreat, June 21 2024. In this workshop, I showed participants the power of machine learning through a hands-on exploration. We started by building a foundation in linear models, then I used Multi-Layer Perceptrons (MLPs) to introduce the concept of neural networks. Finally, we delved into the exciting world of Graph Neural Networks (GNNs) and explored various Deep Learning techniques.

Fine-Tuning the Future: AI-Powered Chatbots Revolutionize Physico-Chemical Education in Lectures @6. Symposium of WueDive and QUADIS, May 24 2024. As an AI tutor, I developed a chatbot for physico-chemical lectures using the Mistral7B base model for fine-tuning, leveraging lecture notes as training data which were carefully preprocessed. This model was successfully presented in this talk and is currently implemented in lectures, enhancing student learning by overcoming communication barriers and providing flexible study times.

Unleashing the Power of LLMs: A Hands-on Workshop on Prompting Techniques for Educators Across Disciplines @Day of Good Teaching of the Bavarian State Ministry of Science and Art, April 10 2024. In this interactive workshop, I equipped educators from all disciplines with the skills to leverage Large Language Models (LLMs) effectively in their classrooms. We explored the CLEAR prompting method (Clear, Long, Emphasizing, Asking, Refining) through hands-on exercises. This method empowers educators to craft powerful prompts that unlock the full potential of LLMs and enhance the learning experience.