Dominik Dekleva

Resumé

I am a biochemist and data scientist leveraging cutting-edge machine learning methods to address complex issues in early-stage drug discovery. My experience spans nanotoxicology, cancer research, generative AI drug design, AI-driven optimization of autonomous insect farms, and large-scale biological production. This interdisciplinary work has advanced projects in both drug discovery and sustainable biotech.

Experience

2023– **Research Assistant**, National Institute of Chemistry, Ljubljana, Slovenia.
Developing novel drug candidates using generative molecular AI. Applying advanced machine learning techniques to enhance molecular design and optimize drug discovery.

2021–2023 **X1 Remote Operations Lead**, Better Origin, Cambridge, United Kingdom.
Coordinated Biology, Engineering, and AI departments on all issues regarding the X1 autonomous insect farms, focusing on performance and efficiency KPIs. Played a key role in the development of AI computer vision models for optimizing food waste utilization in insect feeding systems.

2019–2021 **Entomology Researcher**, Better Origin, Cambridge, United Kingdom.
Upscaled insect breeding operations by introducing cutting-edge breeding techniques, streamlining production processes, and training staff on new protocols, resulting in a 100-fold increase in production yield.

Education

2023– **Ph.D. Pharmacy (AI Drug Design)**, *University of Ljubljana, Slovenia.*

2016–2019 **M.Sc. Biochemistry (Cancer Research)**, *University of Ljubljana, Slovenia.*

2012–2016 **B.Sc. Biochemistry (Nanotoxicology),** *University of Ljubljana, Slovenia.*

Skills and Projects

- **Software Development & AI:** Experienced in Python, SQL, and Snakemake, with a solid foundation in deep learning frameworks such as Pytorch and TensorFlow, and high-performance computing with MPI.
- **Molecular Modeling & Cheminformatics:** Expertise in molecular dynamics simulations, docking and free energy perturbation.
- **Technical Proficiency:** Skilled in MS Office, comfortable with both Linux and Windows environments, and adept at utilizing supercomputing platforms for drug discovery and related computational tasks.

Courses

2023 **Software Engineering.** AICore, London, United Kingdom.

2023 **Data Science.** AICore, London, United Kingdom.

2024 **Oxford Machine Learning Summer School.** Oxford, United Kingdom.

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Selected Publications

1. Resnik, N., Tratnjek, L., Kreft, M. E., Kisovec, M., Aden, S., Zavec, A. B., Anderluh, G., Podobnik, M., & Veranič, P. (2021). Cytotoxic Activity of LLO Y406A Is Targeted to the Plasma Membrane of Cancer Urothelial Cells. International Journal of Molecular Sciences, 22(7), 3305. https://doi.org/10.3390/ijms22073305 - **acknowledged for my Master's Thesis work that contributed to the publication**
2. Oddon, S. B., Schiavone, A., Imarisio, A., Pipan, M., **Dekleva, D.**, Colombino, E., Capucchio, M. T., Meneguz, M., Bergagna, S., Barbero, R., Gariglio, M., Dabbou, S., Fiorilla, E., & Gasco, L. (2021). Black soldier fly and yellow mealworm live larvae for broiler chickens: Effects on bird performance and health status. Journal of Animal Physiology and Animal Nutrition. https://doi.org/10.1111/jpn.13567
3. Schiavone, A., Oddon, S. B., Chemello, G., Gariglio, M., Fiorilla, E., Dabbou, S., Pipan, M., **Dekleva, D.**, Macchi, E., & Gasco, L. (2022). Welfare implications for broiler chickens reared in an insect larvae-enriched environment: Focus on bird behaviour, plumage status, leg health, and excreta corticosterone. Frontiers in Physiology, 13. https://doi.org/10.3389/fphys.2022.930158