CURRICULUM VITAE

Valentyn Bezshapkin
April 2022

A medical doctor interested in turning data insights into evidence towards a better understanding of disease mechanisms and improved therapy protocols.
Enthusiastic about machine learning, microbiome & multi-omics.

EDUCATION

2020 - present	Research Fellow Małopolska Centre of Biotechnology UJ Structural & Functional Genomics Lab
2015 - 2021	6-year Medical Degree Program in Polish Jagiellonian University Medical College Distinction in Human Anatomy and Physiology courses GPA: 4.03
2014 - 2015	One-year Preparatory program for studying in Poland Jagiellonian University
2012 - 2014	Kyiv-Pechersk Lyceum No. 171 "Leader" Major: Biology and Chemistry GPA: 4.67

SKILLS

Main:	Healthcare, bioinformatics, data analysis, statistics & machine learning, software engineering
Programming languages:	**Primary:** Python **Secondary:** R, Julia

Tools:	- data analysis & visualization (pandas, scikit-bio, matplotlib)
	- network analysis (NetworkX)
	- machine learning (scikit-learn, h2o, pycaret)
	- deep learning (Tensorflow, PyTorch)
	- probabilistic programming (PyMC3)
	- version control & open-source development (Git & GitHub)
	- 16S rRNA sequencing data analysis (QIIME2)
	- metagenomics:
	    - functional annotation (eggNOG, DeepFRI, Prokka, etc.)
	    - phylogenetic analysis (GTDB-tk, PhyloPhlAn, iTOL etc.)
	- workflow management (WDL, snakemake, Cromwell)
	- virtualization (Docker)

LANGUAGES

Full proficiency	English, Polish, Russian, Ukrainian
B2.2	German (Goethe-Institut Krakau 2020-2022)

RESEARCH EXPERIENCE

June 2021 - Present	**Research Fellow in SONATA BIS project** **"Extended microbiome characterization by the exploitation of the microbial intra-community synergies -- towards better understanding of the Exposome"** Łabaj Lab, Bioinformatics Research Group, Małopolska Centre of Biotechnology, Jagiellonian University
December 2019 - Present	**Member of Intensive Care and Perioperative Therapy Research Group** Centre for Intensive Care and Perioperative Medicine JUMC
June 2020 - Present	**Research Fellow** Structural and Functional Genomics Lab, Małopolska Centre of Biotechnology, Jagiellonian University
April 2018 - February 2020	**The "Wholesome Contact" non-pharmacological, volunteer delivered multidisciplinary programme to prevent hospital delirium in elderly patients – randomized controlled study** **https://doi.org/10.1186/s13063-018-2781-6** Department of Internal Diseases and Gerontology JUMC **Role:** Volunteer trainer and coordinator
June 2017 - November 2017	**Automated cancer metastasis segmentation in microscopic images of mesenteric lymph nodes** Department of Pathology JUMC and ACK "Cyfronet" AGH University of Science and Technology **Role:** data preprocessing and image labelling

PUBLICATIONS

1. Kaczmarczyk M, Szulińska M, Łoniewski I, Kręgielska-Narożna M, Skonieczna-Żydecka K, Kosciolek T, **Bezshapkin V,** Bogdański P
Treatment With Multi-Species Probiotics Changes the Functions, Not the Composition of Gut Microbiota in Postmenopausal Women With Obesity: A Randomized, Double-Blind, Placebo-Controlled Study. *Front Cell Infect Microbiol*. 2022
Available from: www.frontiersin.org/articles/10.3389/fcimb.2022.815798/full

2. Turek A, Machalska K, **Bezshapkin V**, Chrobak AA, Siwek M, Dudek D
Violent behaviour as a result of delirium superimposed on dementia in the course of primary central nervous system lymphoma. *Arch Psychiatry Psychother*. 2020; 22(1):49–55
Available from: archivespp.pl/uploads/images/2020_22_1/49Turek_Archives_PP_1_2020.pdf

3. Hapkiewicz K, **Bezshapkin V**, Jastrzębski R, Koszman A, Niemirowska M
Non-consumable alcohol poisoning in the material of the Forensic Medicine Department in Cracow in 2007–2016. *Porto Biomed J*. 2017; 2(5):237
Available from: www.elsevier.es/en-revista-porto-biomedical-journal-445-articulo-non-consumable-alcohol-poisoning-in-material-S2444866417302751

Submitted manuscripts

1. Czech A, Gronostaj K, Fronczek J, Frydrych J, **Bezshapkin V**, Przydacz M, Dudek P, Curylo Ł, Wiatr T, Gąsowski J, Chlosta P. Diagnostic accuracy of bimanual palpation in bladder cancer patients undergoing cystectomy. *BJU Int.*

Manuscripts in preparation

1. Maranga M , Szczerbiak P , **Bezshapkin V**, Gligorijevic V, Kosciolek T, Vatanen T. Comprehensive function annotation of metagenomes and microbial genomes using a deep learning method.
2. Szaleniec J, **Bezshapkin V,** Krawczyk A, Kopera K, Gosiewski T, Kosciolek T. 16S sequencing analysis reveals inconsistent microbiome patterns irrelevant of anatomical conditions in chronic rhinosinusitis

CONFERENCE PRESENTATIONS

TALKS

1. Sokołowski G, Trofimiuk-Müdlner M, Kamińska M, **Bezshapkin V**, Bereza M, Komisarz M, Konturek A, Hubalewska-Dydejczyk A.
   Machine learning prediction of thyroid nodule malignancy.
   The Congress of Polish Scientific Societies on thyroid cancer, Gliwice, Poland, May 5-7, 2022.
2. **Bezshapkin V**.
   Fine-tuning pretrained RoBERTa model for optimizing relevant biomedical literature search.
   Critical Assessment of Massive Data Analysis, ISMB/ECCB, virtual event, June 28-30, 2021.
3. Pasieka P, **Bezshapkin V**, Fronczek J, Szczeklik W.
   What are the predictors of outcomes of the elderly patients admitted to the ICU?
   The International Student Scientific Conference (ISSC), Gdańsk, Poland, *May 21-23, 2021*
4. **Bezshapkin V**, Pasieka P, Fronczek J, Szczeklik W.
   Life sustaining treatment withdrawal in Polish Intensive Care wards - multicentre retrospective study.
   International Medical Congress of Silesia SIMC, Katowice, Poland, May 12-14, 2021
5. Kamińska M, **Bezshapkin V**, Sacha T, Szczepanek E.
   The prevalence of secondary malignancies among patients with chronic myeloid leukaemia treated with tyrosine kinase inhibitors - a single-centre report.
   International Medical Students' Conference Online, Cracow, Poland, September 21-23, 2020
6. Hapkiewicz K, **Bezshapkin V**, Jastrzębski R, Koszman A, Niemirowska M, Żydzik Ł, Konopka T.
   Non-consumable alcohol poisoning in the material of the Forensic Medicine Department in Cracow in 2007–2016.
   3th Warsaw International Medical Congress for Young Scientists, Warsaw, Poland, May 11-14, 2017.

HONORS & AWARDS

1. **1st place at "Literature AI for Drug Induced Liver Injury" Challenge**. "Fine-tuning pretrained RoBERTa model for optimizing relevant biomedical literature search." *International Conference on Critical Assessment of Massive Data Analysis (CAMDA), a track of joint conference on Intelligent Systems for Molecular Biology / European Conference on Computational Biology 2021.*

REFEREES

1. Prof. Wojciech Szczeklik, MD PhD
   Chair, Centre for Intensive Care and Perioperative Medicine
   Jagiellonian University Medical College
2. Tomasz Kosciolek, PhD
   Assistant Professor, Structural and Functional Genomics Lab
   Małopolska Center of Biotechnology UJ
3. Paweł P. Łabaj, PhD, DSc
   Bioinformatics Group Leader
   Małopolska Center of Biotechnology UJ

LINKS

GitHub: https://github.com/crusher083