

Filip Hajdyla

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Bioinformatics and biostatistics specialist

Highly motivated biostatistician and bioinformatician with hands-on experience in medical data analysis and a great appetite for learning. Leveraged NGS and microarray data analysis to unlock biological insights. Developed and deployed robust analytical pipelines, prioritizing reproducibility, documentation, and user-friendliness. Skilled in applying machine learning and deep learning techniques alongside classical statistics to tackle complex bioinformatics challenges. Mainly having experience in an academic environment, I am now seeking a challenging role in the industry.

Coursework

External PhD in Bioinformatics (Oct 2024 — Present)

Warsaw PhD School in Natural and BioMedical Sciences

- Cancer Epidemiology @ MSCNRIO
- Clinical Oncology Basics @ MSCNRIO
- Methodological Advances in Molecular and Structural Biology @ IIMCB

MSc in Molecular Biotechnology (Oct 2022 — Jun 2024)

Jagiellonian University, Cracow

- Top 10% of the Programme
- Advanced Computational Biology
- NGS in Transcriptomics (final project: [RNA-Seq Profiling of *S. aureus* RN4220 Mutants Compared to WT](#))
- NGS and advanced RNA-Seq data analysis (final project: [Differential Gene Expression Analysis of *A. thaliana* TAIR9 Genome](#))
- Scientific Computing and Data Visualisation in Python (final project: [SIRS Morbidity Prediction from Expression Profiles](#))
- Statistical Analysis in R (final project: [Health Insurance Cost Modelling from 'Medical Cost Personal' Datasets](#))

BSc in Biotechnology (Oct 2019 — Jun 2022)

Jagiellonian University, Cracow

- Introduction to Computational Biology
- Introduction to Medical Biotechnology
- Programming Basics in Python (final project: [Data Analysis of Water Levels of Vistula in Years 2016-2018](#))
- Molecular Modelling with PyMOL
- Practicum in Advanced Experimental Data Analysis

Extracurricular courses and activities

- **ICH E6 (R2) Good Clinical Practice Certificate**
- Agile Project Management Foundation Certificate
- Instructed a \LaTeX Course to a group of 20-25 life science students in the 'Mygen' club
- Co-organized the 'XLIX Winter School of FBBB' scientific conference, managing logistics for 100+ attendees

Experience

Founder and Chief Executive Officer (Mar 2025 — Present)

PaperQC

- Organised and lead a team of co-founders to achieve key milestones in business development, such as getting into Unicorn Hub Innovation Lab incubation programme
- Delivered a business pitch to an audience of 100+ and engaged in meaningful discussion with potential users and investors
- Utilized **full-stack development skills** to create an MVP and successfully deployed it in the **cloud environment**

Bioinformatics specialist (Jul 2024 — Present)

Maria Skłodowska-Curie National Research Institute of Oncology

- Engaged diverse scientific audiences through conference and seminar presentations and discussions
- Configured, administered, and optimized an HPC cluster for high-throughput bioinformatics analyses and parallel computing
- Analyzed **bulk RNA-Seq** data from different types of ovarian cancer patients to identify expression profiles associated with longer survival

- Developed a novel approach to **variant analysis from RNA-Seq data** based on GATK best practices workflow and automated it using Nextflow
- Investigated **miRNA expression profiles** of high-grade B-cell lymphoma patients to confirm HGBCL-11q as a distinct subtype of B-cell lymphoma
- Compared results from **cytology microarrays and mRNA expression profiles** of high-grade B-cell lymphoma patients to find correlations between chromosomal aberrations and gene expression

Freelancing bioinformatician (Jul 2023 — Present)

Self-employed

- 100% job success and Top Rated on Upwork
- Collaborated with diverse clients worldwide, spanning various professional backgrounds
- Developed and deployed a pipeline for **viral metagenomic analysis** using Snakemake and analytic tools such as FastQC, DRAM, Bowtie2, VirSorter2 etc.
- Analyzed **single-cell sequencing** data from cancer tissues using AneuFinder, medICC2, MuPeXI, sciClone and more
- Built an R Shiny dashboard app to visualize biological data analysis results in real time, facilitating efficient data exploration
- Accessed and utilized online resources like NCBI, PDB, SwissProt, GEO, etc. for data retrieval and submission

Student researcher (Mar 2021 — Nov 2021)

Institute of Environmental Sciences, Cracow

- Developed and deployed an image analysis workflow using ImageJ and Python scripting to analyze fluorescent microscopy data. This reduced data analysis time from 160 hours to 10 minutes, resulting in 1000x speed increase and publication in the peer-reviewed journal 'Science of the Total Environment'
- Utilized statistical methods like ANOVA and post-hoc tests to analyze data and draw conclusions from the image analysis results

Publication list

1. Zajdel, M. et al. microRNA Profile of High-Grade B-Cell Lymphoma with 11q Aberration. IJMS 26, 285 (2024).
2. Pajdak-Stós, A., Fiałkowska, E., Hajdyła, F. & Fiałkowski, W. The Potential of Lecane Rotifers in Microplastics Removal. Science of the Total Environment 899, 165662 (2023).

Skills

Programming/scripting/workflow languages

Python, R, Bash, C++, SQL, AWK, Snakemake, Nextflow

Tools

Linux, HPCC, Google Cloud, Git, Conda, Docker, PyMOL, ImageJ

Soft skills

Teamwork, Excellent Communication, Problem Solving and Execution, High Empathy

Communication

English (C1/C2), Polish (native)