KASIA KEDZIERSKA

I am a PhD student at the University of Oxford. As a computational biologist, I use Data Science and Machine Learning to answer biological questions. Specifically, I study cancer of the uterus and chromatin organisation in disease progression. Last summer, I joined Computational Biology Department at Novo Nordisk Research Centre in Oxford as an intern, where I was working with NLP methods and knowledge graphs.

🖥 SELECTED RESEARCH EXPERIENCE

2021

Intern
Novo Nordisk Research Centre Oxford 📍 Oxford, United Kingdom

- I used NLP based methods to screen biomedical artciles and identify potential therapeutic targets. I built R Shiny App to allow colleagues within the company to investigate results from our pipeline.

present | 2018

DPhil Candidate
Mentored by D. Church and D. Woodcock 📍 University of Oxford, UK

- PhD project: *Functional and evolutionary characterisation of chromatin organisation in endometrial cancer*

2018 | 2017

Visiting Graduate Student
Ratan group 📍 University of Virginia, USA

- Developed SONiCS - a tool for genotyping short tandem repeats (STRs) profiled using capture assays.
- Worked on the Master thesis - *Analysis of the mutational burden across gene sets in cancer*.

2016 | 2015

Research Assistant
Zebrafish Developmental Genomics 📍 IIMCB, Warsaw, Poland

- I worked on the project: *Elucidating gene regulatory network of zebrafish heart development using genomics.*
- I was responsible for both computational and experimental aspects of the project.

🎓 EDUCATION

present | 2018

DPhil. Candidate, Genomic Medicine and Statistics
Nuffield Department of Medicine, Brasenose College 📍 University of Oxford, UK

- PhD fully funded by Wellcome Trust Four-year PhD Studentships in Science

2018 | 2015

M. Sc. Eng., Biotechnology
Warsaw University of Technology 📍 Warsaw, Poland

- Thesis: *Analysis of the mutational burden across gene sets in cancer*.
- Thesis awarded the best Master thesis in Bioinformatics defended in 2018 title.

CONTACT

- ✉ kasia@well.ox.ac.uk
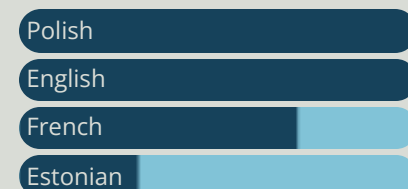- 🐦 kzkedzierska
- github.com/kzkedzierska
- 🔗 kasia.codes
- in kzkedzierska

CODING SKILLS

- R
- Python
- Bash
- AWK
- SQL
- Perl

LANGUAGES

- Polish
- English
- French
- Estonian
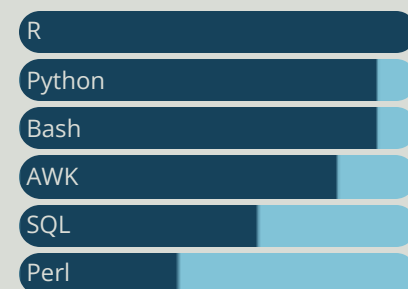
Made with the R package pagedown.

Based on the Nick Strayer's CV package; modified source code for this CV is available here.

Last updated on 2022-01-27.

PUBLICATIONS

2021 — Multi-omics analyses of early liver injury reveals cell-type-specific transcriptional and epigenomic shift

M. Migdal, E. Tralle, K. A. Nahia, L. Bugajski, **K. Z. Kedzierska**, F. Garbicz, K. Piwocka, C. L. Winata, M. Pawlak

📍 BMC Genomics

2020 — The *MLH1* polymorphism rs1800734 and risk of endometrial cancer with microsatellite instability

H. Russell, **K. Kedzierska**, D. D. Buchanan, R. Thomas, E. Tham, M. Mints, A. Keränen, G. G. Giles, M. C. Southey, R. L. Milne, I. Tomlinson, D. Church, A. B. Spurdle, T. A. O'Mara and A. Lewis

📍 Clinical Epigenetics

2020 — Prognostic integrated image-based immune and molecular profiling in early-stage Endometrial Cancer

N. Horeweg, M. de Bruyn, R. A. Nout, E. Stelloo, **K. Kedzierska**, A. León-Castillo, A. Plat, K. D. Mertz, M. Osse, I. M. Jürgenliemk-Schulz, L. C.H.W. Lutgens, J. J. Jobsen, E. M. van der Steen-Banasik, V. T. Smit, C. L. Creutzberg, T. Bosse, H. W. Nijman, V. H. Koelzer and D. N. Church

📍 Cancer Immunology Research

2019 — Dynamics of cardiomyocyte transcriptome and chromatin landscape demarcates key events of heart development

M. Pawlak, **K. Z. Kedzierska**, M. Migdal, K. A. Nahia, J. A. Ramilowski, L. Bugajski, K. Hashimoto, A. Marconi, K. Piwocka, P. Carninci and C. L. Winata

📍 Genome Research

2018 — Genomic analysis of DNA repair genes and androgen signaling in prostate cancer

K. Jividen, **K. Z. Kedzierska**, C.-S. Yang, K. Szlachta, A. Ratan and B. M. Paschal

📍 BMC Cancer

2018 — SONiCS: PCR stutter noise correction in genome-scale microsatellites

K. Z. Kedzierska, L. Gerber, D. Cagnazzi, M. Krützen, A. Ratan, L. Kistler

📍 Bioinformatics

SELECTED TALKS AND POSTERS

2019 — Analysis of the mutational burden across gene sets in cancer

Polish Bioinformatics Society Symposium

📍 Cracow, Poland

• Invited talk

2018 — Differential mutation analysis across gene sets in cancers

The Biology of Genomes 2018

📍 Cold Spring Harbor, NY, USA

• Poster

SELECTED AWARDS AND HONOURS

present | 2021 — Senior Hulme Scholarship

• Senior Hulme Scholarship is awarded by Brasenose College, University of Oxford to DPhil students whose academic performance is deemed to be exceptional.

2019
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2018

Best Master Thesis in Bioinformatics

• *Analysis of the mutational burden across gene sets in cancer* - Best Master Thesis defended in Bioinformatics in 2018 in Poland.

🎓 ATTENDED WORKSHOPS, SUMMER SCHOOLS

2019

Machine Learning Summer School

Imperial College London, University College London

📍 London, United Kingdom

🖥 TEACHING EXPERIENCE

2021

Data visualization in bioinformatics - hackathon mentor

Online hackathon NGSprint

📍 Discord

• I led the hackathon in data viusalisation with emphasis on computational biology. Under my supervision, 3 teams of areound 5 people each, created interactive and captivating visualisation. Teaching materials are available at github.com/kzkedzierska/NGSprint_data_viz.

2020

Online tutorials: Python for Data Science and Introduction to Python

NGSeminars

📍 YouTube

• I led two Python tutorials: **Introduction to Python** kasia.codes/talk/intro_to_python/ and **Python for Data Science** kasia.codes/talk/py4ds/.

2019

Introduction to R

Wellcome Centre for Human Genetics

📍 Oxford, United Kingdom

• 8 week course in Introduction to R, Data Manipulation, Data Visualisation and RNA-seq data analysis.
• Materials available on github/kzkedziersa/r_intro

2020
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2019

Introduction to Managing Code with Git

Wellcome Centre for Human Genetics

📍 Oxford, United Kingdom

• I led a 2-hour introduction to working with Git. Materials, including slides and exercises are available at kasia.codes/talk/into_to_git/.

€ SELECTED GRANTS

2022
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2020

Visegrad Grant to organize #NGSchool2020 postponed until 2022

Visegrad Fund

• 32,190 EUR awarded towards organising affordable summer school focusing on ML application in CompBio. Due to COVID-19 pandemic we organised a virtual events in 2020 & 2021 and are planning in person summer school and conference in 2022.

🤝 NON-PROFIT WORK

2021
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2018

President

NGSchool Society

• The goal of the Society is to promote and support science, with emphasis on computational biology.
• President since 2019; Vice President 2018 - 2019