

# Dmitry Penzar

## Bioinformatician, ML enthusiast, teacher

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The online version is available at

<https://dmitrypenzar1996.github.io/resume>

### Residence

Moscow

### Github

[github](#)

### Email

[dmitrypenzar1996@gmail.com](mailto:dmitrypenzar1996@gmail.com)

Python	+++++	R	+++++	C/C++	+++	Golang	++	Statistics	+++++	Classical ML	+++++
Deep learning	++++	Algorithms	+++++	Molecular biology	++++	Biochemistry	+++	Bioinformatics	++++	English (speaking)	+++
English (technical literature)	+++++										

ML enthusiast

## Professional Experience

### Department of Computational Systems Biology, VIGG RAN

June 2017 - Current

Advisor: Dr. Ivan Kulakovskiy.

Classical ML and Deep Neural Networks application for the regulatory mutations effect

ML biology healthcare

### Belozersky Institute of Physico-Chemical Biology, Department of Mathematical Methods in Biology

September 2016 - June 2017

Advisor: S.A. Spirin

We developed a novel program, named PQ, for reconstructing protein and nucleic acid phylogenies following a new character-based principle.

C/C++ phylogeny software development

### Internship in Netherlands, LUMC, Molecular Epidemiology, Department of Medical Statistics and Bioinformatics

July 2016

Advisor: Dr. Szymon Kielbasa

R-Shiny based NGS data quality control and outliers detection toolkit Zeeuw

R NGS software development

### Technosphere, Mail.Ru Group

October 2016 - December 2017

Intense two-year program by a leading Russian IT company.  
Within the program, I participated in different ML Kaggle competitions,  
acquired a huge experience in ML and software development, deepened knowledge of C/C++.  
I quit from the third semester of the program due to job offer from Insilico Medicine

## Developer in startup curated by AIAR Labs Inc, department of machine learning

August 2017 - October 2017

NDA

ML DNN software development

## Developer in InSilico Medicine, department of machine learning

November 2017 - August 2018

I've been working on generating new drugs using deep neural networks

ML DNN drug design software development

## Education

Lomonosov Moscow State University, Faculty of Bioengineering and Bioinformatics. 2013 - 2019. specialist degree, GPA - 5/5

VIGG, Department of Computational Systems Biology, 2019-2023, phd degree

## Publications

### Insights gained from a comprehensive all-against-all transcription factor binding motif benchmarking study

Ambrosini Giovanna, Vorontsov Ilya, **Penzar Dmitry**, Groux Romain, Fornes Oriol, Nikolaeva Daria D., Ballester Benoit, Grau Jan, Grosse Ivo, Makeev Vsevolod, Kulakovskiy Ivan, Bucher Philipp

### The species Severe acute respiratory syndrome-related coronavirus: classifying 2019-nCoV and naming it SARS-CoV-2

Gorbalenya Alexander E., Baker Susan C., Baric Ralph S., de Groot Raoul J., Drosten Christian, Gulyaeva Anastasia A., Haagmans Bart L., Lauber Chris, Leontovich Andrey M., Neuman Benjamin W., **Penzar Dmitry**, Perlman Stanley, Poon Leo L.M., Samborskiy Dmitry V., Sidorov Igor A., Sola Isabel, Ziebuhr John

### H3K4me3, H3K9ac, H3K27ac, H3K27me3 and H3K9me3 Histone Tags Suggest Distinct Regulatory Evolution of Open and Condensed Chromatin Landmarks

Igolkina Anna A., Zinkevich Arsenii, Karandasheva Kristina O., Popov Aleksey A., Selifanova Maria V., Nikolaeva Daria, Tkachev Victor, **Penzar Dmitry**, Nikitin Daniil M., Buzdin Anton

### Integration of Multiple Epigenomic Marks Improves Prediction of Variant Impact in Saturation Mutagenesis Reporter Assay

Shigaki Dustin, Adato Orit, Adhikar Aashish N., Dong Shengcheng, Hawkins-Hooker Alex, Inoue Fumitaka, Juven-Gershon Tamar, Kenlay Henry, Martin Beth, Patra Ayoti, **Penzar Dmitry P.**, Schubach Max, Xiong Chenling, Yan Zhongxia, Boyle Alan P., Kreimer Anat, Kulakovskiy Ivan V., Reid John, Unger Ron, Yosef Nir, Shendure Jay, Ahituv Nadav, Kircher Martin, Beer Michael A.

### Retroelement—Linked Transcription Factor Binding Patterns Point to Quickly Developing Molecular Pathways in Human Evolution

Nikitin Daniil, Garazha Andrew, Sorokin Maxim, **Penzar Dmitry**, Tkachev Victor, Markov Alexander, Gaifullin Nurshat, Borger Pieter, Poltorak Alexander, Buzdin Anton

# What Do Neighbors Tell About You: The Local Context of Cis-Regulatory Modules Complicates Prediction of Regulatory Variants

**Penzar Dmitry D.**, Zinkevich Arsenii O., Vorontsov Ilya E., Sitnik Vasily V., Favorov Alexander V., Makeev Vsevolod J., Kulakovskiy Ivan V.

## PQ, a new program for phylogeny reconstruction

**Dmitry Penzar**, Mikhail Krivozubov, Sergey Spirin

## Profiling of Human Molecular Pathways Affected by Retrotransposons at the Level of Regulation by Transcription Factor Proteins

Nikitin Daniil, **Penzar Dmitry**, Garazha Andrew, Sorokin Maxim, Tkachev Victor, Borisov Nicolas, Poltorak Alexander, Prassolov Vladimir, Buzdin Anton A.

## Additional Experience

### Additional courses

I've attend a huge variety of additional courses, including:

1. Categorical grammar
2. Neuroscience and neuromarketing
3. Macromolecular modeling
4. Pattern recognition
5. Mathematical models in biology
6. Mathematical linguistics

ecomomics

linguistics

mathematics

### Teacher

I've been trying to take part in teaching since I was a third-year student. Firstly, I've started as an teacher assistant, then – as one of the course authors, now I'm continue to teach different courses, including those led by me.

Short list of courses I'm taking part in:

1. Algorithms
2. Machine learning in biology (the course led by me)
3. Introduction to Python
4. Advanced Python
5. Deep learning in science

teaching

communication

team leader