# Dmitry Penzar
# Bioinformatician, ML enthusiast, teacher

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The online version is available at
https://dmitrypenzar1996.github.io/resume


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github

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

ML enthusiast

## Professional Experience

### Department of Computational Systems Biology, VIGG RAN

June 2017 - Current

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Advisor: Dr. Ivan Kulakovskiy.
Classical ML and Deep Neural Networks application for the regulatory mutations effect
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ML | biology | healthcare

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

September 2016 - June 2017

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Advisor: S.A. Spirin
We developed a novel program, named PQ, for reconstructing protein and nucleic acid
phylogenies following a new character–based principle.
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C/C++ | phylogeny | software development

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

July 2016

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Advisor: Dr. Szymon Kielbasa
R–Shiny based NGS data quality control and outliers detection toolkit Zeeuw
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R | NGS | software development

### Technosphere, Mail.Ru Group

October 2016 - December 2017

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Intense two–year program by a leading Russian IT company. Within the program, I participated
in differeent ML Kaggle compeetitions, aquired a huge experience in ML and software
development, deepened knowledge of C/C++. I quited from the third semester of the program due
to job offer from Insilico Medicine company
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R | NGS | software development

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

August 2017 - October 2017

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NDA(:( )
```

ML DNN software development

### Developer in InSilico Medicine, department of machine learning

November 2017 - August 2018

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

epigenomics visualization regulatory regions

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

virology R software development

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

epigenomics

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

epigenomics machine learning regulatory regions

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

epigenomics | visualization | regulatory regions

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

machine learning | data leakage | regulatory regions

## PQ, a new program for phylogeny reconstruction

phylogeny

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

epigenomics | visualization | regulatory regions

# Additional Experience

**Additional courses**

I've attend a huge variety of additional courses, including: 1. Categorial grammar 2. Neuroscience and neuromarketing 3. Macromolecular modeling 4. Pattern recognition 5. Mathematical models in biology 6. Mathematical linguistics

ecomomics | linguistics | mathematics

**Teacher**

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  I've been trying to take part in teaching since I was a third-year student. Firstly, I've
started as teacher assistant,
  then - one 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
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teaching | communication | team leader