

# Stanislav Bratchikov

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## Research Experience

Jul 2024 –  
Present

**Broad Institute of MIT and Harvard**, Cambridge, MA  
*Computational Associate*

- Developed and maintained computational pipelines for RNA-Seq and Tandem Mass Tag proteomics and metabolomics analysis used across multiple laboratory projects
- Responsible for quality control, data analysis, and visualization
- Implemented workflows that standardized omics data processing and interpretation
- Worked with wet lab biologists helping in data analysis and visualizations

May 2024 – Jun  
2024

**Stanford School of Medicine** (remote)  
*Intern*

- Assessed machine learning model performance for tumor microenvironment deconvolution using statistical validation methods

Nov 2022 – Jul  
2024

**Northwestern University, Pulmonary Department**  
*Post-baccalaureate Researcher*

- Led year-long project implementing automated flow cytometry pipeline using gradient boosting models, achieving 1400-fold speedup in data analysis
- Benchmarked differential gene expression methods for single-cell RNA-seq analysis in collaborative project with University of Warsaw
- Analyzed spatial transcriptomics data (Nanostring CosMx, 10x Xenium) contributing to technology adoption decisions

Aug 2021 – Aug  
2022

**BostonGene Corporation**, Boston, MA  
*Junior Bioinformatician, Molecular Oncology Department*

- Developed machine learning classifier for cancer-associated fibroblast deconvolution in bulk RNA-seq data to improve patient outcome prediction
- Results presented at OpenBio 2022 and submitted to AACR 2024

## Education

2018 – 2022

**Lomonosov Moscow State University** – Moscow, Russia  
BS in Biophysics, GPA: 3.7/4.0

Thesis: Heterogeneity of cell populations in tumor environment at the RNA expression level.

## Publications & Presentations

### Manuscripts

**Robust Generation of Oxygen at the Surface of Human Cells via Plasma Membrane-Targeted SNORCL.** Hercher T.W., To T.L., McCoy J., Wu A., [Bratchikov S.](#), Durham T., Vantaku V.R., Parangi S., Mootha V.K. *In preparation*.

**Developing and validating a machine learning model to predict successful next-day extubation in the ICU.** Fenske S.W., Peltekian A., Kang M., Markov N.S., Zhu M., Grudzinski K., Bak M.J., Pawlowski A., Gupta V., Mao Y., [Bratchikov S.](#), Stoeger T., Rasmussen L.V., Choudhary A.N., Misharin A.V., Singer B.D., Budinger G.R.S., Wunderink R.G., Agrawal A., Gao C.A., and the NU SCRIPT Study Investigators. *medRxiv* 2024.06.28.24309547. *Scientific Reports, Accepted after revision*

### Posters

**Machine learning classifier for automated flow cytometry analysis** ([Bratchikov S.](#), et al.). Presented at: Systems Biology for Infectious Diseases (2023), Northwestern Research Day (2023), Molecular Mechanisms of Lung Disease Conference (2023)

### Talks

OpenBio 2022: **RNA Expression-Level Heterogeneity in Cancer-Associated Stromal Cell Populations**

## Leadership & Service

2025

**Hackathon Organizer, Broad Institute**

- Led industrial partnerships (EvolutionaryScale, Ginkgo Bioworks, Google) and event planning for institute-wide hackathon
- Coordinated between academic and industry stakeholders to facilitate collaborative problem-solving initiatives

Aug 2024 – Present

**Steering Committee Member, CodeRATS**

- Support researchers at Broad Institute with coding through project planning, social events, and community building initiatives

Sep 2023

**NIAID Codeathon Assistant**

- Prepared flow cytometry datasets and supported 25 researchers from leading US institutions during 3-day collaborative coding event

Summer 2023

**Mentor, Kimberly Querrey Summer Research Program**

- Supervised diverse group of high school and undergraduate students in reproducible programming and flow cytometry analysis

## Skills & Achievements

### Programming

Python, R, LaTeX, Git, Bash, High Performance Computing

### Methods

Omics data analysis (RNA-Seq, spatial transcriptomics, proteomics, database, metabolomics), UniParc database, gradient boosting, random forests, VAEs, statistical modeling

### Athletics

Boston Marathon finisher (2025)

### Languages

English (2023 IELTS 7.5)