

# ANGELINA VOLKOVA

PhD Candidate, New York University Langone Medical Center  
angie.volkova@gmail.com

## EDUCATION

---

### **NYU Sackler Institute of Graduate Biomedical Sciences, New York, NY**

Master of Science in Basic Medical Sciences

September 2018

Cumulative GPA 3.57

### **Hunter College, CUNY, New York, NY**

June 2016

Bachelor of Arts in Chemistry with Bioinformatics Concentration, Minor in Computer Science, Minor in Mathematics

Cumulative GPA 3.60

### **Kingsborough Community College, CUNY, New York, NY**

June 2013

Associate of Science in Biology with Pharmacy Concentration

Cumulative GPA 3.88

## SKILLS

---

- Ability work on a high-performance computing cluster
- Strong background in machine learning and deep learning fields
- Comprehensive knowledge of natural language processing algorithms
- Excellent knowledge of bioinformatics 'omics data processing tools
- Sound familiarity with Bash, Python, R, SQL and MATLAB
- Ability to handle large data such as next-generation sequencing and imaging data
- Profound knowledge of biomedical databases
- Excellent statistical and analytical background
- Excellent communication, writing, presentation and collaborative skills
- Fluent in English and Russian

## PROFESSIONAL EXPERIENCE

---

### **Consultant, Netrias LLC, Cambridge, MA**

Summer 2019

- Identified publicly available data sets to augment in-house data
- Performed data concatenation and integration of biological assays and PATRIC database
- Build machine learning models to predict pathogenic bacteria
- Trained custom embeddings to identify similar terms in PATRIC database

### **PhD Candidate, Ruggles Lab, NYU Langone Medical Center, New York, NY**

2016-current

- Processed microbiome next-generation sequencing data
- Performed statistical analysis and data visualization
- Built predictive models for microbial data
- Applied natural language processing techniques to raw metagenomics data
- Performed RNA-seq and microarray array data analysis

### **Research Assistant, Kawamura Lab, Hunter College, CUNY, New York, NY**

2014-2016

- Assembled bacterial genome using Velvet algorithm
- Analyzed gene clusters using antiSMASH and NCBI BLAST

- Modified scripts in Perl and Python
- Built bioinformatics tools pipelines on Galaxy project website and in Unix
- Executed DNA metagenomic analysis using QIIME
- Performed DNA extraction and purification, NanoDrop, PCR, gel electrophoresis

#### **Research Assistant, Kanwisher Lab, MIT, Cambridge, MA** Summer 2015

- Analyzed fMRI data using Freesurfer, SamSurfer, AFNI, SPM and MATLAB
- Worked with fMRI scanner
- Implemented scripts in MATLAB and bash

### **TEACHING ACTIVITIES**

---

- Teaching Assistant, NYU Langone Medical Center, New York, NY 2018-current  
Graduate courses:  
Advanced Topics in Bioinformatics (BMSC-GA 4456)  
Introduction to Health Informatics (BMSC-GA 4455)  
Next-Generation Sequencing Informatics (BMSC-GA 4452)
- MATLAB Tutor, NYU Langone Medical Center, New York, NY Spring 2018
- Volunteer Math Teacher, New York Cares, New York, NY Fall 2015

### **ORAL AND POSTER PRESENTATIONS**

---

- **June 2019** *Predictive Metagenomic Analysis of Autoimmune Disease*. Oral and poster presentations at ASM Microbe 2019 conference, San Francisco, CA
- **April 2019** *Advances in the Human Microbiome Field*. Lecture at NYU Medical Center, New York, NY
- **December 2018** *Predictive Metagenomic Analysis of Autoimmune Disease*. Poster presentation at RSGDREAM 2018 conference, New York, NY
- **June 2017** *Impact of Short-Term Lifestyle Change on the Human Microbiome*. Poster presentation at American Society for Microbiology Microbe 2017 conference, New Orleans, LA
- **November 2015** *Comparison Between Population Receptive Field Sizes in Autistic Individuals and Neurotypical Controls*. Poster presentation at Annual Biomedical Research Conference for Minority Students 2015, Seattle, WA
- **August 2015** *Comparison Between Population Receptive Field Sizes in Autistic Individuals and Neurotypical Controls*. Poster presentation at MIT Summer Program in Biology and Neuroscience poster session, Cambridge, MA
- **August 2015** *Comparison Between Population Receptive Field Sizes in Autistic Individuals and Neurotypical Controls*. Poster presentation at MIT Center for Brains, Minds and Machines poster session, Cambridge, MA
- **March 2015** *From Chemotype to Genotype: 17-Hydroxycyclooactatin*. Oral presentation at Undergraduate Research Conference, Hunter College, CUNY, New York, NY

### **RELEVANT GRADUATE LEVEL COURSEWORK**

---

- Natural Language Processing with Representation Learning (DS-GA 1011)
- Deep Learning in Medicine (BMSC-GA 4493)
- Scientific Computing (CSCI-GA 2112)
- Machine Learning (BMSC-GA 4439)

## PUBLICATIONS

---

- Kelly V. Ruggles, Jincheng Wang\*, **Angelina Volkova\***, Monica Contreras, Oscar Noya-Alarcon, Orlana Lander, Hortensia Caballero, Maria G. Dominguez-Bello. Changes in the Gut Microbiota of Urban Subjects during an Immersion in the Traditional Diet and Lifestyle of a Rainforest Village. *mSphere*, 2018; 3 (4).
- **Angelina Volkova**, Kelly V. Ruggles. Predictive Metagenomic Analysis of Autoimmune Disease. *In submission*.

## AWARDS

---

- National Science Foundation Graduate Research Fellowship, March 2016
- ABRCMS Travel Fellowship, November 2015
- MIT Summer Research Fellowship, June 2015