

# Bilal Shaikh

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## RESEARCH AND EXPERIENCE

JULY 2019 - PRESENT

Ichaan School of Medicine, Karr Lab  
*Associate Bioinformatician*

- Developing an online platform for simulation of biological models using full stack technologies
- Working on creating reproducible visualizations of biological data

JUNE 2018 -JUNE 2019

Ichaan School of Medicine, Karr Lab  
*Model Development*

- Used qualitative and quantitative data sources to develop computational models of living cells
- Created marketing materials, including an informational video
- Responsible for oral and written communication of data, including visual data presentation

2016-2018

Columbia University, Colecraft Lab  
*Cell Biology Research, Protein Trafficking*

- Investigated regulation and trafficking of voltage gated calcium ion channels
- Engineered selective E3 ligases to modulate expression and trafficking of channel subunits

SUMMER 2016

Hackensack-Meridian Health,  
JSU Medical Center, Department of Oncology  
*Axelrod Summer Scholar*

- Selected for the Meridian Cancer Care Summer Scholarship Program
- Performed retrospective analysis on triple negative breast cancer patient outcomes
- Investigated correlations to specific pathology, immunohistochemical features, and genomic markers

SPRING 2016

Columbia University, Chemistry, Breslow Lab  
*Organic Synthesis Research, Nucleic Acids*

- Performed organic synthesis experiments with the goal of developing specific antiviral agents
- Learned chemistry techniques, in addition to computer and database tools

SUMMER 2015

Rutgers University, Hashmi Lab  
*Physiology Research, C. elegans Metabolism*

- Managed individual project under direction of Primary Investigator
- Responsible for experimental design and data collection
- Presented during lab meetings
- Worked on production of manuscript and documentation

2013-2015

Waksman Student Scholars Program  
*Biotechnology and Bioinformatics Research, L. punctata gene discovery*

- Completed an intensive three-week program in molecular biology, biotechnology, and bioinformatics
- Employed bioinformatics tools including BLAST, PDB searches, CN3D, and Jmol
- Led two teams, each of ten members for two years, providing theoretical and experimental instruction on a DNA sequencing project, leading to 48 unique sequence publications

## EDUCATION

MAY 2019 **Columbia College,  
Columbia University,  
New York, NY**  
BACHELOR OF ARTS  
*Major in Biochemistry,  
Concentration in Computer Science*

## TEACHING

2017 - 2019

Columbia Department of Chemistry  
*Help Room Tutor*

- Tutored students in General Chemistry, Organic Chemistry, and Lab courses

SUMMER 2018

Columbia Department of Chemistry  
*General Chemistry Lab Teaching Assistant*

- Assisted with experiment setup and techniques
- Provided feedback and graded assignments
- Addressed concerns and provided tutoring

## VOLUNTEER EXPERIENCE

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2013-CURRENT

Holmdel First Aid Squad

### *Emergency Medical Technician*

- Evaluate patient status, provide effective treatment, and transport to appropriate hospitals
- Responsibilities involve extensive patient interaction and clinical decision making

2015

Jersey Shore University Medical Center

### *Emergency and Trauma Volunteer*

- Assisted in triage, provided basic treatment, and assisted in trauma treatment

2014

Riverview Medical Center

### *Pulmonary Rehabilitation Volunteer*

- Worked directly with patients to assist in exercise routines to rehabilitate lung function

## SKILLS

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COMPUTATIONAL    Typescript, Python,  
Numpy, Scipy,  
BioPython, Java, C,  
Linux, BASH, git,  
L<sup>A</sup>T<sub>E</sub>X, Docker,  
DevOps

LABORATORY    Mammalian Cell  
Culture, Molecular  
Biology, Flow  
Cytometry,  
Bioinformatics

RELEVANT COURSEWORK    Molecular Biology,  
Biochemistry,  
Computer Science  
Theory, Advanced  
Programming, Data  
Structures, Artificial  
Intelligence