Ilia Zenkov

ilzenkov@gmail.com | ilia-zenkov | github | Research

Skills

Languages Python, SQL, Java, LaTeX
Technologies Django, PostgreSQL, Spark, Jupyter, Git
Tools PANDAS, Matplotlib, Seaborn, NumPy, SciPy, sklearn, psycopg, Scrapy, spaCy, statsmodels, Kibana

Experience

Lady Davis Institute at McGill University
Montreal, QC

Research Assistant
Sept 2017 - May 2018

- Wrote a Python script to automate conversion of high throughput experiment data files into JSON for storage using PostgreSQL, enabling automated statiscal analysis using Python data science libraries PANDAS, Statsmodels, NumPy
- Designed a data pipeline for high throughput drug screening using PostgreSQL and Python libraries PANDAS, Matplotlib and Cytoflow which was used to identify a drug constituting a primary objective in a $1m federal grant
- Developed, optimized, and performed statistical analysis using Python from scratch on an independent research project from proof-of-concept through to live-animal experiment stage, culminating in a $20 000 project grant proposal
- Acquired an independent research subsidy of $5 000, helping equalize cost of reagents used in experiments

Harvard Medical School
Boston, MA

Visiting Undergraduate Researcher
Sept 2016- May 2017

- Improved speed of statistical analysis and visualization of experimental data using Python libraries SciPy, PANDAS, Matplotlib and Seaborn; streamlined data visualization by setting up a lab web server using Django
- Built a Python tool providing precise and lab-accessible tracking of biological samples using PostgreSQL for data storage, Python with Matplotlib for visualization, and Django to display up-to-date inventory on a lab web server
- Accepted presenter for the Lady Davis Institute Cancer Research Axis Seminar 2018
- Designed from scratch, conducted, and optimized experiments and data analysis validating a collaborative nanoparticle research proposal; research accepted and published in high-impact peer reviewed journal

University of Waterloo Centre for Teaching Excellence
Waterloo, ON

Special Projects Coordinator
Jan 2016 - May 2016

- Used Python statistics and plotting libraries NumPy, SciPy and Matplotlib to identify and statistically analyze shortcomings in workshop attendance with respect to academic term and attendee faculty membership

Peer-Reviewed Publications

Co-Author: Sugar-Nanocapsules Imprinted with Microbial Molecular Patterns for mRNA Vaccination
Nano Letters 2020 20 (3), 1499-1509 • Impact Factor 12.4

Co-Author: Flat Cell Culturing Surface May Cause Misinterpretation of Cellular Uptake of Nanoparticles
Advanced Biosystems 2018 2 (6), 1800046 • 2020 Expected Impact Factor 7.5-10

Education

University of Waterloo
Waterloo, Ontario

B.Sc Honors Biophysics
2014 - 2019

Awawrded University of Waterloo President's Scholarship of Distinction
Courses: Differential Equations, Linear Algebra, Statistical Mechanics, Computational Physics, Quantum Info Processing

Personal Interests

Pianist: Classically trained - Rachmaninoff preludes are a favourite

Powerlifter: Standing Canadian junior national bench press record holder since 2017

Pizzaiolo: Statistically optimizing the perfect crust