

# Ilia Zenkov

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## Skills

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

## Experience

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### [🔗](#) McGill University - Lady Davis Institute

Montreal, QC

RESEARCH ASSISTANT

Sept 2017 - May 2018

- Wrote **Python** script to automate conversion of high throughput experiment data files into **JSON** for storage using **PostgreSQL**, enabling automated statistical 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
- Accepted presenter at the [Lady Davis Institute Cancer Research Axis Seminar 2018](#)
- Developed from scratch and optimized experiments and statistical analysis using **Python** on an independent research project from proof-of-concept through to live-animal experiment stage, culminating in a \$20 000 project grant proposal
- Awarded an independent research subsidy of \$5 000, paying for cost of reagents used for independent research project

### [🔗](#) 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 and access 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
- Designed from scratch, conducted, and optimized experiments and data analysis validating a collaborative nanoparticle research proposal; [research accepted and published in a 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

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[🎓](#) **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

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### University of Waterloo

Waterloo, Ontario

B.Sc HONORS BIOPHYSICS

2014 - 2019

Awarded University of Waterloo President's Scholarship of Distinction

Courses: Differential Equations, Linear Algebra, Statistical Mechanics, Computational Physics, Quantum Info Processing

## Personal Interests

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[🎹](#) **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