

Arvin Zaker

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SUMMARY

Highly motivated and community-oriented individual with a diverse background in scientific research, tutoring, and volunteering. Proven track record in leading and organizing community initiatives, including founding university clubs. Strong communication skills developed through collaborative research projects. Experienced in working with diverse populations. Committed to making a positive impact through tutoring, where I can apply my interpersonal skills and experience to foster an inclusive education environment and promote academic excellence within the community.

PROFESSIONAL EXPERIENCE

Tutor

Sep 2023 - Present

Oxford Learning

Oak Ridges, ON

- Provide personalized tutoring to students from Kindergarden to University across all STEM topics.
- Efficiently managing multiple students' learning plans to encourage growth and success.
- Fostering trust and open communication to collaboratively set and achieve academic goals.
- Implement strategies to promote critical thinking and problem-solving skills.

Research Assistant

Nov 2023 - Present

University of Ottawa and York University

Ottawa and Toronto, ON

- Creating and optimizing computation tools for genomic and epigenomic research
- Building and training deep learning models from extensive biological databases to identify cancer biomarkers and predict clinical outcomes
- Designing and implementing pipelines for analyzing outcomes of psychological experiments

Bioinformatics Researcher

Sep 2022 - Oct 2023

University of Ottawa

Ottawa, ON

- Creating computation tools for analyzing cancer drug response
- Developing novel *in vivo* drug response quantification metrics
- Correlational study between cancer gene biomarkers and drug response
- Creating machine learning models to translate *in vivo* results to clinical practice
- Open source package development and developing analysis pipelines

Patient Care Coordinator & Receptionist

Sep 2022 - June 2023

Chadha Medical Clinic

Ottawa, ON

- Assisted with appointment scheduling, referrals, and testing coordination to 30+ patients weekly
- Collaborated with the medical team and to address patients' unique needs and backgrounds.
- Ensuring timely follow-ups and patient satisfaction in a fast-paced environment

Undergraduate Trainee - Laboratory rotations & TST program

Jan 2022 - Aug 2022

University of Ottawa

Ottawa, ON

- Performing genomic and transcriptomic data analysis in pan-cancer clinical databases
- Cancer phenotype and survival analysis of novel DNA repair complexes
- Utilizing text mining algorithms for biomarker discovery

Undergraduate Trainee - SEA-PHAGES program

Sep 2021 - Apr 2022

University of Ottawa

Ottawa, ON

- Performed environmental sampling and phage extraction techniques
- Performed DNA extraction and genomic analysis via gel electrophoresis
- Used Python and ImageJ to analyze the restriction digest pattern of phages
- Phage discovery and characterization (Arzan and Khorshid)

Research Assistant - UROP program

Nov 2020 - Jul 2022

University of Ottawa

Ottawa, ON

- Designing experiments and setting up research equipment for data collection
- Performing experiments on mouse muscles using electrophysiological equipment
- Performing antibody staining, fluorescent imaging, and analysis of muscle tissue in the Imiris program

VOLUNTEER EXPERIENCE

Lets Talk Science Presenter <i>University of Ottawa</i>	Jan 2021 - Dec 2021 <i>Ottawa, ON</i>
Founder of the University of Ottawa Canadians Sharing Locally and Globally <i>University of Ottawa Canadians Sharing Locally and Globally</i>	Dec 2020 - Apr 2023 <i>Ottawa, ON</i>
Coordinator & Co-Chair at Best Buddies club <i>Best Buddies club</i>	Sep 2020 - Sept 2023 <i>Ottawa, ON</i>
Founder and Coordinator of Hands on Health Magazine <i>Interprofessional Health Association (IPHA) club</i>	Jun 2020 - Present <i>Ottawa, ON</i>
Sales & Stock Coordinator <i>Scope Charity Shop & Tenovus Cancer Care Charity Shop</i>	Sep 2018 - Jun 2019 <i>Cardiff, UK</i>

EDUCATION

University of Ottawa <i>Honours Bachelor of Science (H.BSc) in Translational and Molecular Medicine (CGPA: 9.98/10)</i>	Sep 2019 - Apr 2023 <i>Ottawa, ON</i>
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SKILLS

- **Programming languages:** R, Python, Bash, Nix
- **Software:** ImageJ, Imiris, Microsoft Office Suite
- **Bioinformatic skills:** Transcriptomic & genomic analysis, data visualization, machine learning, pipeline development
- **Lab techniques:** phage extraction and amplification, fluorescent imaging, electrophysiological recordings

AWARDS & ACHIEVEMENTS

CPR level C	July 2023
NSERC - Undergraduate Student Research Awards (USRA) (\$7500)	May 2023 - Aug 2023
TMM Summer Training & Work in Biomedical Research Scholarship (\$8200)	May 2022 - Aug 2022
UROP Scholarship, University of Ottawa (\$1000)	Dec 2020 - Apr 2021
Dean's Honour List & Merit Scholarship, University of Ottawa (\$1000 per term)	Sep 2019 - Present

PUBLICATIONS & PRESENTATIONS

- Nasser, F., Gaudreau, A., Lubega, S., **Zaker, A.** et al. (2024). Characterization of the diversity of type IV secretion system-encoding plasmids in *Acinetobacter*. *Emerg Microbes Infect.* DOI: 10.1080/22221751.2024.2320929
- Wu, G., **Zaker, A.**, Ebrahimi, A., Tripathi, S. & Mer, A. (2024). Text-mining-based feature selection for anticancer drug response prediction. *Bioinformatics Advances.* DOI: 10.1093/bioadv/vbae047
- Roy S., **Zaker, A.**, Mer, A., D'Amours, D. (2023). Large-scale phenogenomic analysis of human cancers uncovers frequent alterations affecting SMC5/6 complex components in breast cancer, *NAR Cancer*. DOI: 10.1093/narcan/zcad047.
- Roy, S., **Zaker, A.**, Mer, A., D'Amours, D. (2023). Large-scale phenogenomic analysis of human cancers uncovers frequent alterations affecting SMC5/6 complex components. *Canadian Society for Molecular Biosciences Conference*. Ottawa, ON.
- Zaker, A.**, Mer, A. (2022). Comparative analysis of drug response metrics in patient-derived xenografts. *4th Annual Faculty of Medicine Research Day*. Ottawa, ON.
- Friesen, R., Algharbi S., **Zaker, A.**, et al. (2022). Investigating Nucleotide-binding Proteins in Bacteriophage JohnDoe. *SEA Symposium*. University of Pittsburgh, Pittsburgh, PA.
- Featherstone, A., Radar, A., Salama, A., Tiukuvaara, S., Ferri, O., **Zaker, A.**, et al. (2022). Give Us a Millet of Your Time: Dehusking the Singleton Bacteriophage Arzan. *SEA Symposium*. University of Pittsburgh, Pittsburgh, PA.
- Zaker, A.**, McRae, C., Renaud, J.M. (2021). Role of Adenosine Receptors on mice skeletal muscle fatigue kinetics. *UROP symposium*. University of Ottawa, Ottawa, ON.