

# Zuhal Olomi

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## EDUCATION

### University of Toronto

Honours Bachelor of Science (HBSc)

Specialist in Cognitive Neuroscience (Co-op), Intending Major in Mathematics

Toronto, Ontario

Sept. 2023 – Jun. 2028

## TECHNICAL SKILLS

**Languages:** Python, C, HTML, CSS, Javascript

**Machine Learning:** Pandas, NumPy, Tensorflow, Keras Matplotlib

**Tools:** Github, REDCap, Kaggle, Git

## EXPERIENCE

### Research Assistant, Orthopaedic Surgery

August 2025 – Present

St. Michael's Hospital, Unity Health Toronto

Toronto, ON

- Collect and manage patient data on **REDCap** for a study examining the impact of **BMI** on post-operative recovery after ankle surgery, ensuring compliance with **REB** and **GCP** standards.
- Prepare clean, structured datasets through quality control and standardized outcome measures, enabling statistical analysis and potential predictive modeling.
- Collaborate with clinicians and researchers to refine study design, interpret findings, and integrate evidence-based insights into research workflows.

### Research Assistant, Computer Science Education

June. 2025 – Present

University of Toronto, Dept. of Computer Science

Toronto, ON

- Synthesized findings from **300+ empirical articles** to identify educational interventions, showcasing precision in critical appraisal and research design.
- Streamlined screening and categorization of **200+ articles** using Microsoft Excel for inclusion/exclusion tracking in a literature mapping project.

### Researcher, Computer Science Education

Jan. 2025 – Present

Computing Research Association (CRA)

Washington, D.C. (remote)

- Conducted in-depth literature reviews and bias analyses of **300+ articles** to uncover patterns of instructor perception, using evidence-based methods to support educational reform.
- Designed and produced research-aligned instructional videos for ethics submission to experimentally assess implicit bias in CS1 students, supporting protocol clarity and alignment with research objectives.

### Research Assistant, Cognitive Neurodevelopment

Oct. 2024 – May 2025

University of Toronto, Ontario Institute of Studies in Education

Toronto, ON

- Recruited and screened participants using **REDCap** and behavioral screening tools, ensuring data integrity across neurocognitive and **fNIRS** protocols.
- Facilitated multilingual engagement by communicating study protocols in Dari/Farsi, enhancing recruitment and cultural accessibility within Afghan communities.

## PROJECTS

### Glioblastoma Detection from fMRI Images

September 2024 – Present

Languages: Python; ML: Matplotlib, NumPy, TensorFlow, Keras, scikit-learn, OpenCV

- Designed and trained a convolutional neural network (CNN) using TensorFlow/Keras to classify glioblastomas in fMRI scans, achieving **84% accuracy** and an F1 score of **0.81**.
- Built a preprocessing pipeline using OpenCV for grayscale conversion, noise reduction, and ROI cropping, improving model performance and consistency.

## PUBLICATIONS

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- \* Independent Literature Mapping On Student Perceptions Of Instructors (Expected 2025)
- \* Independent Literature Mapping On Gender Bias In Computer Science (Expected 2025)
- \* The Effectiveness Of Oral Examinations In Computer Science Education: A Literature Mapping Project (Expected 2025)
- \* Collaboration In Computer Science Education: A Literature Mapping Project (Expected 2025)
- \* A Framework For Evaluating The Impact Of Instructor Gender In Coding Demonstration Videos (Manuscript in Progress, expected 2026)

## AWARDS AND FUNDING

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- Research Experience for Undergraduates Funding—\$8000 USD** Awarded Apr. 2025  
\* Competitively awarded funding to support an independent research project under the mentorship of a faculty supervisor.
- University of Toronto Admissions Scholarship—\$1000 CAD** Awarded Sept. 2023  
\* Merit-based entrance award granted domestic high school applicants demonstrating academic excellence.

## EXTRACURRICULAR ACTIVITIES

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- Events Coordinator Volunteer** June. 2025 – Present  
*University of Toronto Spine Program, Temerty Faculty of Medicine* Toronto, ON  
\* Design visually compelling brochures, flyers, and presentation decks for departmental conferences and academic events using tools such as **Procreate** and **Canva**.  
\* Collaborate with faculty, clinicians, and administrative staff to ensure that promotional materials align with institutional branding and communicate key event objectives effectively.  
\* Demonstrated strong time-management by meeting tight design deadlines and coordinating deliverables across multiple events simultaneously.
- Publishing Associate** June 2025 – Present  
*UofT AI* Toronto, ON  
\* Write and edit original long-form content on **artificial intelligence** and its applications in healthcare, with a focus on Toronto's innovation ecosystem.  
\* Collaborate with a team of student researchers and writers to distill complex scientific and technical concepts into accessible formats under tight deadlines.  
\* Developed an understanding of clinical applications of machine learning through reporting on real-world hospital use-cases and translational research.
- Copy Editor and Writer** Sept. 2023 – Present  
*The Varsity Publications Inc.* Toronto, ON  
\* Write science-focused articles that translate peer-reviewed research into accessible content for over 20,000 student readers, reinforcing strong scientific literacy and communication skills.  
\* Copy-edit articles for factual accuracy, clarity, and grammar, demonstrating meticulous attention to detail and adherence to publication standards—skills essential in clinical documentation and research reporting.  
\* Collaborate with section editors and other writers under fixed deadlines, mirroring the collaborative and time-sensitive nature of clinical research environments.