

Zaki Ul Haq

Aspiring Analyst

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EXPERIENCE

Einstein Lab, University of Toronto — *Researcher*

JUNE 2024 - PRESENT

- Investigated Alzheimer's risk in estrogen-depleted women using deep learning segmentation and 3T MRI data.
- Maintained documentation of project milestones & publication status.
- Conducted statistical modelling (ANCOVA, PLS, Spearman's rho) and integrated hormonal, cognitive, and neuroimaging variables.
- Led manuscript writing and presented findings at the Alzheimer's Association International Conference (AAIC).
- Assisted with background materials for grant proposals
- Assisted with REB preparation, electronic data and file management (Excel, REDCap, participant database management and processing)
- Created internal reports, slide decks, and briefing memos to summarize findings for team leads and external collaborators
- Coordinated research team communications
 - Coordinated Zoom-based research meetings
 - Liaised with cross-site teams and collaborators.

Galea Lab, CAMH, Toronto — *Project Student*

Jan 2024 - May 2024

- Contributed to behavioural neuroscience project modelling sex differences in APOE-related hippocampal plasticity.
- Assisted with data cleaning, estrous cycle classification, and MATLAB-based analysis tools.
- Participated in manuscript figures, protocol refinements, and internal lab reviews.

Dr. Sidney Kennedy, Homewood Research Institute — *Research Assistant*

Sep 2023 - June 2024

- Supported research on adolescent depression, mood disorders, and hormone-brain interactions.
- Generated forest plots and data visualizations summarizing youth hormone and clinical data.

SKILLS & CERTIFICATIONS

- **Data Analysis:** SAS, SPSS, R, Python (pandas, SciPy, seaborn), SQL, Excel
- **GIS & Mapping:** QGIS, GeoNode + GeoServer, MapStore, TerriaJS
- **Statistical Methods:** GLM, ANCOVA, correlation (Pearson, Spearman, Kendall), PLS, trend analysis
- **Visualization:** Tableau (basic), matplotlib, seaborn, Power BI
- **Neuroimaging:** SPM12, CAT12, Freesurfer, MNI-space alignment
- **Data Management:** REDCap, Qualtrics, Microsoft Office Suite
- **Certifications:** TCPS2 CORE | WHMIS & Lab Safety | REB/CTO preparation
- Familiar with curating professional content for web and social media (e.g., Instagram, blogs)
- Quick learner

AWARDS

- **Quinn Family Scholarship** – \$20,000 (2021–2025)
- **Bennett Scholarship** – \$10,000 (2021–2022)
- **Schulich Nominee** – \$100,000 (Top 100 National Finalists)

- Collaborated with senior researchers on interpretation, layout, and communication of findings.

EDUCATION

University of Toronto, Toronto, ON — *Honours BSc*

September 2021 - June 2025

- Graduated with Distinction
- Specialist in Psychology | Coursework in Neuroscience, Physiology, and Biology
- Quinn Family Scholar | Bennett Scholar

PROJECTS

The Impact of BSO on the NBM — *AAIC Conference Submission*

- Applied deep learning segmentation to assess early-life estrogen deprivation and risk for neurodegeneration in women, integrating MRI and hormone assay data to model population health trajectories. Produced statistical maps, overlays, and reports for a conference: AAIC 2025.
- Designed automated pipelines to batch segment brains, align data to MNI space, and calculate gray/white matter probability volumes.
- Correlated hormonal assays (E1G, PdG) with brain imaging data to explore estrogenic effects on neuroplasticity.
- Created multi-panel correlation plots, surface overlays, and PLS maps for publication and conference use.

Comorbidities (SUD, AUD) with Youth Depression

- Contributed to the early development of a project investigating comorbidities in youth depression.
- Produced plots, surface visualizations, and maps for internal presentations and manuscript figures.
- Collaborated with lab members on study design discussions before stepping away from the project due to academic priorities.

LANGUAGES

- English (Fluent)
- Urdu, Hindi (Fluent)
- French (Basic Understanding)

Human Memory & Learning Lab — *PSY379 Course Research Project at UofT*

- Recruited and screened participants, scheduled testing sessions, and obtained informed consent.
- Administered quantitative surveys and memory tasks (REDCap) using online tools per research protocols.
- Assisted with document preparation, reference formatting (EndNote), and slide creation for presentations.
- Maintained electronic records and managed project timelines
- Applied inclusive practices working with participants from diverse backgrounds.