JAMES **CHIELLA**

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I am a third-year undergraduate student at the University of Toronto majoring in neuroscience and biochemistry with a minor in chemistry. I am very interested in medical research, particularly in the study of chronic neurological and psychiatric conditions. I have strong academic skills and experience in a research lab setting, both through my current work at the Campbell Research Institute of the Centre for Addiction and Mental Health (CAMH), as well as my past work at the SickKids Research Institute and the Sunnybrook Research Institute. I have completed several independent research projects, one of which is currently being prepared for publication.

EXPERIENCE

MAY 2024 – PRESENT

RESEARCH PLACEMENT STUDENT, **CENTRE FOR ADDICTION AND MENTAL HEALTH**

- Working in the **MEDS (Memory, Emotion, Drugs, and Synapses) Lab** under the supervision of Dr. Thomas Prevot, part of the Department of Neurobiology of Depression and Aging (NDA)
- Awarded the Milne Research Award by the University of Toronto
- Handling mice according to procedure to improve welfare and reduce resistance to experimenters
- Conducting behavioural experiments on mice, including the Morris water maze, Y maze, and Phenotyper with cognition wall
- Assisting with blood collection and euthanasia of mice, including processing of blood samples and brain dissection
- Participating in weekly lab and group meetings

MAY 2023 – APRIL 2024

RESEARCH STUDENT, **SICKKIDS RESEARCH INSTITUTE**

- Worked in the **Kassner Lab** (translational neuroimaging lab with an emphasis on cerebrovascular disease) under the supervision of Dr. Andrea Kassner
- Conducted extensive literature review of disease pathologies, MRI protocols, study designs, and imaging techniques relevant to my projects
- Presented weekly updates and literature summaries to colleagues in lab meetings
- Currently developing a modular, multi-method processing pipeline for calculating cerebrovascular reactivity
- Designed, developed, and automated an image processing pipeline to analyze fMRI images from neurofibromatosis patients to study a novel biomarker for cerebrovascular disease
- Designed, developed, and automated an image processing pipeline to analyze fMRI images to calculate cerebrovascular reactivity (CVR) as a measure of vascular function in the brain
- Presented abstract and poster, entitled “Physiological fluctuations in white matter from rs-fMRI are increased in patients with neurofibromatosis type 1”, at the SickKids Summer Research Symposium
- Above abstract and poster were presented by Dr. Kassner at the ISMRM WHATEVER workshop
- Contributed to the writing of several manuscripts based on work I conducted in the lab

SUMMER 2022

RESEARCH INTERN, **SUNNYBROOK RESEARCH INSTITUTE**

- Worked in the **Focused Ultrasound Lab Group** (PI: Dr. Kullervo Hynynen) under the supervision of Dr. Ryan Jones
- Analyzed quality assurance data from a focused ultrasound system currently used for the clinical treatment of essential tremor
- Performed data analysis, analyzed MRI imaging taken during the procedures, and evaluated overall stability of the ultrasound system using a series of scripts written in MATLAB
- Presented final report on my project to entire Focused Ultrasound lab group

EDUCATION

SEPT 2022 – PRESENT

BACHELOR OF SCIENCE, UNIVERSITY OF TORONTO

- Third-year undergraduate student, double majoring in neuroscience and biochemistry with a minor in chemistry
- Current cGPA: 3.97
- Awarded the U of T Scholar, Helga and Frank Peroutka, and Johnson entrance scholarships, and the Alfred and Isabel Bader in-course scholarship

SEPT 2018 – JUNE 2022

HIGH SCHOOL DIPLOMA, EMILY CARR SECONDARY SCHOOL, VAUGHAN, ONTARIO

- Awarded the Governor General's Academic Medal, Academic Accomplishment Award, and Director's Achievement Award
- Grade 12 overall average: 99%

SKILLS

- Certified in mouse handling procedures
- Strong knowledge of mouse cognition tests (Morris water maze, Y maze, Phenotyper with cognition wall)
- Microsoft Office (including Excel)
- Fundamental wet lab techniques (gel electrophoresis, PCR, restriction enzyme digests, titrations)
- Basic statistical analyses using Python
- Working knowledge of FSL (functional brain MRI software library)
- Strong knowledge of several programming languages including Python and MATLAB
- Windows, Linux, Visual Studio Code, Git, GitHub
- Leadership and teamwork
- Organization and planning
- Time management
- Strong oral and written communication
- Detail-oriented problem solver
- Strong work ethic
- Excellent at independent work