

LYA CHIÑAS (SHE/HER)

Ph.D. STUDENT | MACHINE LEARNING FOR METABOLIC ENGINEERING

 Toronto, Canada

 [Lya Chiñas Serrano](#)

EDUCATION

Ph.D. STUDENT

University of Toronto

Toronto, Canada • Sept 2024 – Present

B.S. IN BIOTECHNOLOGY ENGINEERING

Tecnológico de Monterrey

Puebla, Mexico • Aug 2020 – Jun 2024

GPA 4.0, First in Class Honors

PROGRAMMING

Software: Python, MATLAB, Simulink, Minitab, SuperPro Designer, Vensim

Content Creation: Adobe (Photoshop, Illustrator, Premiere Pro), Affinity (Photo, Designer, Publisher)

Tools: NumPy, Pandas, scikit-learn, PyTorch, Matplotlib, Git, LaTeX

LABORATORY

Genetic engineering, *in vitro* plant and animal tissue culture, microbiology assays, bioreactor control, protein purification

LANGUAGES

Spanish • Native

English • Advanced • TOEFL C1

French • Elementary • DELF A2

FELLOWSHIPS

- Massey College Junior Fellowship
- American Institute of Chemical Engineers

VOLUNTEERING

- Tutoring undergraduate students in Science and Engineering courses.

EXPERIENCE

GRADUATE STUDENT RESEARCHER | LABORATORY FOR METABOLIC SYSTEMS ENGINEERING

University of Toronto • Toronto, Canada • Sept 2024 – Present

- Constructing and evaluating deep learning predictive models that address data scarcity in metabolic modeling.
- Compiling large datasets of omics information, using NLP techniques for text mining.

TEACHING ASSISTANT | CHE222 'PROCESS DYNAMICS: MODELING, ANALYSIS AND SIMULATION'

University of Toronto • Toronto, Canada • Jan 2025 – May 2025

- Conducting tutorials and practical laboratories on process engineering modeling.
- Designing and supervising the final project focused on programming for simulating chemical reactors.

MITACS GLOBALINK RESEARCH INTERN | LABORATORY FOR METABOLIC SYSTEMS ENGINEERING

University of Toronto • Toronto, Canada • Jul 2023 – Oct 2023

- Conducted a research internship in Canada with fully funded living expenses.
- Developed a Python framework for the reconstruction of Genome-Scale Models.

ORGANIZING COMMITTEE | BIOMOLECULE RESEARCH LAB SYMPOSIUM 2023

Tecnológico de Monterrey • Puebla, Mexico • Feb 2023 – Jun 2023

- Organized the first edition of a scientific research symposium
- Secured participation of leading researchers from various countries as speakers

ORGANIZING COMMITTEE | LATIN FOOD 2022

Mexican Association of Food Science (AMECA, A.C.) • Puebla, Mexico • Jun 2022 – Nov 2022

- Participated in the organization of one of Mexico's largest biotechnology congresses, leading the review of over 500 abstracts of the presented research.

AWARDS

CONNAUGHT INTERNATIONAL SCHOLARSHIP

University of Toronto • 2024 – 2029 •

Highly competitive scholarship that provides financial assistance to international Ph.D. students.

CONAHCYT SCHOLARSHIP

Consejo Nacional de Humanidades, Ciencias y Tecnologías • 2024 – 2029 •

Scholarship that supports Mexican students pursuing novel graduate studies abroad.

PRESENTATIONS

9TH CONFERENCE ON CONSTRAINT-BASED RECONSTRUCTION AND ANALYSIS

San Diego, USA • 2024 • Oral & poster presentations

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS ANNUAL MEETING

San Diego, USA • 2024 • Oral presentation

PUBLICATIONS

INTERNATIONAL CONFERENCE ON LEARNING REPRESENTATIONS (ICLR) 2025,

Singapore • 2025 • Learning Meaningful Representations of Life Workshop