Yann Ilboudo

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LinkedIn: http://www.linkedin.com/in/yannilboudo
Github: https://github.com/yilboudo
Personal website: https://yilboudo.github.io

EDUCATION

Doctor of Philosophy (Ph.D) in Bioinformatics 01/2018 – 10/2023
University of Montreal, Montreal, QC, Canada

Master of Science (M.Sc.) in Bioinformatics 01/2015 – 03/2017
University of Montreal, Montreal, QC, Canada

Bachelor of Science (B.Sc.) in Bioengineering 09/2007 – 05/2011
Binghamton University, State University of New York, USA

CORE SKILLS

Research Skills: GWAS • ExWAS • Mendelian randomization • eQTL • pQTL • Proteomics • Metabolomics • Genomics • Transcriptomics • Clustering • PCA • UMAP

Human genetics datasets: MVP • AllofUS • TopMed • UKBioBank, SARDNiA • INTERVAL • OMG • CSSCD • GENMOD • dbGaP • CLSA

Software: Python • R • REGENIE • PLINK • METAL • bcftools • Nextflow • RVTESTS • RAREMETALS • Slurm • Bash • AWK • Git • Linux • LaTeX • R/Markdown • Bioconductor • Mathematica • High Performance Computing • Microsoft suite

Research cloud computing: DNAnexus, Terra

Languages
• French (Native proficiency in reading and writing)
• English (Native proficiency in reading and writing)
• Italian (Full professional proficiency in reading and writing)
• Spanish (Elementary proficiency in reading and writing)

PROFESSIONAL EXPERIENCES & PROJECTS

Postdoctoral Fellow 04/2025–Present
Brigham and Women's Hospital, Boston, MA

Research Fellow 04/2025–Present
Harvard Medical School of Medicine, Boston, MA

Research associate 06/2022–01/2025
Lady Davis Institute, Montreal, QC, Canada
•Developed computational pipelines for genome-wide associations and mendelian randomization studies
•Supervised Ph.D. students and interns on various computational omics (proteomics, metabolomics, transcriptomics) projects
•Assisted academic and industry collaborators to execute research studies

•Reviewed manuscripts
•Hosted weekly lab meetings and monthly journal club
•Participated in the lab's recruitment efforts (interviews, CV reviews)
•Awarded computational storage grant from the Digital Research Alliance of Canada Compute Canada estimated to be worth $70,000
•Provided support for managing ~1000Tb of data

Research assistant in Bioinformatics 03/2017–01/2019
Montreal Heart Institute, Montreal, QC, Canada
Metabolomics projects
• Implemented a mendelian randomization analysis pipeline in *Python* to identify the causal role of metabolites in sickle cell disease patients
• Performed clustering analysis with *WGCNA*, developed a wrapper in *R* to facilitate the analysis
• Developed a *Python* script to efficiently parse the *XML* Human Metabolome Database (HMDB) in order to perform metabolite annotation
• Wrote projects results and methods in R Markdown

Genomics projects
• Developed a pipeline to perform genome-wide association (GWAS) studies for multiple phenotypes outputting tables, and figures
• Performed whole exome sequencing quality control and analysis with *GATK* and *VEP*
• Developed a *Python* script to integrate and harmonize results from GWAS, with those from gene expression (RNA-Seq), and genome editing (CRISPR)

SCHOLARSHIPS & AWARDS

Brotman Baty Institute Research Training. 07/2023
• Awarded travel prize for presenting research at the Mutational Scanning Symposium in the UK

MERITE scholarship by faculty of Medicine at the University of Montreal. 09/2020 – 09/2022
• Awarded by the department of medicine based on a yearly competition to the most deserving students based on a rigorous evaluation from university professors
• $60,000 CAD over 3 years

LEADERSHIP & VOLUNTEERING

Planning committee members and organizers - Mutational Scanning Symposium 01/2024 -03/2024
•Assisted in outlining the purpose, goals, and theme of the symposium
•Reviewed, scored and ranked submitted abstracts
•Identified visual designers to develop logos, and virtual art

Mutational Scanning Symposium 2023 07/2023
Wellcome Genome Campus, UK
•Moderated of the session on Bringing function to the genome

SELECTED SCIENTIFIC PRESENTATION

Variant Effect Seminar Series committee member 07/2022 - 10-2024
•Organized monthly virtual seminar series on variant effects
•Performed analytics analyses to optimize the number of people attending seminar
•Assisted with outreach efforts (Twitter, Instagram, podcast)

Statistical, Computational, Translational, and Ethical Challenges in Biobank Data Analysis. 07/2024
Banff International Research Station, CA
•Invited oral presentation: Vitamin D, Cognition, and Alzheimer's Disease: Observational and Two-Sample Mendelian Randomization Studies

6th Mendelian randomization Conference 06/2024
Bristol, UK
•Poster presentation: Vitamin D, Cognition, and Alzheimer's Disease: Observational and Two-Sample Mendelian Randomization Studies

SELECTED PUBLICATIONS AND PREPRINTS

Y Ilboudo*, **N Brosseau***, K Sin Lo, H Belhaj, S Moutereau, K Marshall, M Reid, A Kutlar, A E Ashley-Koch, M J Telen, P Joly, F Galactéros, P Bartolucci, G Lettre. A replication study of novel fetal hemoglobin-associated genetic variants in sickle cell disease-only cohorts (2025) Human Molecular Genetics.

Y Ilboudo, Yoshiji S, Lu T, Butler-Laporte G, Zhou S, Richards JB. Vitamin D, Cognition, and Alzheimer's Disease: Observational and Two-Sample Mendelian Randomization Studies (2024). J Alzheimers Dis

Y Ilboudo, ME Garrett, P Bartolucci, C Brugnara, C Clish, JN Hirschhorn, F Galactéros, A Ashley-Koch, M Telen, G Lettre (2020) Potential causal role of L-glutamine in sickle cell disease painful crises: a Mendelian randomization analysis. Blood Cells Mol Disease 86:102504