

CONTACT

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EDUCATION

THE UNIVERSITY OF BRITISH COLUMBIA

2021–Present

Doctor of Philosophy (PhD) in Statistics

Supervisors: Dr. Trevor Campbell and Dr. Benjamin Bloem-Reddy.
Advanced to candidacy in August 2024.

THE UNIVERSITY OF BRITISH COLUMBIA

2019–2021

Master of Science (MSc) in Statistics

Thesis: *Locally-Adaptive Boosting Variational Inference*.

Supervisors: Dr. Trevor Campbell and Dr. Benjamin Bloem-Reddy.
GPA: 94.2% out of 100%.

INSTITUTO TECNOLÓGICO AUTÓNOMO DE MÉXICO

2013–2017

Bachelor of Science (BSc) in Applied Mathematics, summa cum laude

Thesis: *Bayesian Design of Experiments for Generalized Linear Models*.

Supervisor: Dr. Ernesto Barrios-Zamudio.
GPA: 96.9% out of 100%.

PUBLICATIONS AND SOFTWARE

PEER-REVIEWED PUBLICATIONS

*First Author

- 2024 G. C. Diluvi*, B. Bloem-Reddy, and T. Campbell. **Mixed variational flows for discrete variables**. In *International Conference on Artificial Intelligence and Statistics*.
- 2022 G. C. Diluvi*, B. Dunham, N. Heckman, M. Lee, and R. Lourenzutti. **Structured, interactive resources for teaching Bayesian inference**. In *International Conference on Teaching Statistics*.

WORKSHOPS AND CONFERENCES

- 2024 G. C. Diluvi*, S. Isberg*, B. Dunham, N. Heckman, and M. Lee. **Using online student focus groups in the development of new educational resources**. In *The Royal Statistical Society International Conference*.

SOFTWARE

- 2023 MAD Mix: Learn discrete distributions with Measure-preserving And Discrete MixFlows.
<https://github.com/giankdiluvi/madmix>.
- 2021 First Bayes R: Teach and learn Bayesian statistics with interactive Shiny apps!
<https://github.com/giankdiluvi/first-bayes-r>.
- 2019 LBVI: Bayesian inference via locally-adapted boosting variational inference.
<https://github.com/ubc-bayes/mixinf>.

NON-REFEREED PUBLICATIONS

- 2019 G. C. Diluvi. **How does it make you feel?** *Significance*, 16(3), 26–29.
- 2018 G. C. Diluvi*, M. Mendoza, and G. Orantes. **Statistics in the 2018 Mexican general election quick counts**. *Laberintos e Infinitos*, 48, 29–37.
- 2018 M. Mendoza, G. C. Diluvi, and G. Orantes. **Description of the Bayesian estimation model, stratification design, and sample size for Chiapas..** *Scientific, logistic, and operational criteria for the Quick Counts and sampling design protocol*, 43–45 and 53–67.

TALKS, POSTERS, AND LECTURES

TALKS AND LECTURES

- 2025 UBC STAT 306: *Poisson Regression*. (Guest lecture.)
2025 WNAR Annual Meeting: *Student Experiences Navigating Graduate School*. (Panelist.)
2024 UBC Statistics Seminar: *Using online student think-alouds to develop Shiny apps for teaching statistics*. (Co-presenter.)
2024 RSS International Conference: *Using student focus groups in the development of new educational resources*.
2023 SFU/UBC Joint Statistics Seminar: *Mixed variational flows for discrete variables*.
2022 ICOTS 11: *Structured, interactive resources for teaching Bayesian inference*.
2021 UBC Statistics Seminar: *Locally-adaptive boosting variational inference*.
2020 UBC Social Exposome Cluster Research Day: *Reliable statistical inference with complex, heterogeneous data*. (Prize for best master's presentation.)
2019 SFU/UBC Joint Statistics Seminar: *Quick counts in the 2018 Mexican general election*.
2018 ITAM Mathematics Colloquium: *Statistics behind the 2018 Mexican general election quick counts*.

ORGANIZED

- 2021 SFU/UBC Joint Statistics Seminar (co-organizer).
2019–21 Weekly graduate student-run seminars at UBC Statistics (co-organizer).

CHAIRED

- 2021 WNAR of IBS Distinguished Speaker Q&A with Dr. Michael I. Jordan (co-chair).

POSTERS

- 2024 AISTATS: *Mixed variational flows for discrete variables*.
2024 RSS International Conference: *Using student focus groups in the development of new educational resources*.

RESEARCH POSITIONS

THE UNIVERSITY OF BRITISH COLUMBIA

2021–Present

Research Assistant, Department of Statistics

Supervisors: Dr. Trevor Campbell and Dr. Benjamin Bloem-Reddy

Doctoral research focused on developing algorithms for Bayesian inference over discrete variables.

THE UNIVERSITY OF BRITISH COLUMBIA

2020–2024

Research Assistant, Department of Statistics

Supervisor: Dr. Nancy Heckman

Research focused on improving introductory instruction of Bayesian inference and on assessing interactive simulations in development via think-aloud sessions with students.

THE UNIVERSITY OF BRITISH COLUMBIA

2020–2021

Research Assistant, Department of Statistics

Supervisors: Dr. Trevor Campbell and Dr. Benjamin Bloem-Reddy

Master's research project that combined ideas from MCMC and boosting variational inference to develop a novel algorithm for Bayesian inference.

TEACHING POSITIONS

THE UNIVERSITY OF BRITISH COLUMBIA			2019–Present
Teaching Assistant , Department of Statistics			
2026 Spring	STAT 450: Case Studies in Statistics.	(Statistical consulting.)	
2025 Fall	STAT 306: Finding Relationships in Data.	(Linear regression models.)	
2025 Spring	STAT 450: Case Studies in Statistics.	(Statistical consulting.)	
2022 Spring	STAT 450: Case Studies in Statistics.	(Statistical consulting.)	
2020 Spring	STAT 302: Introduction to Probability.	(Undergraduate probability.)	
2020 Spring	STAT 200: Elementary Statistics for Applications.	(Introductory statistics.)	
2019 Fall	STAT 203: Statistical Methods.	(Introductory statistics.)	

THE UNIVERSITY OF BRITISH COLUMBIA			2021–2024
Teaching Assistant Trainer , Department of Statistics			
• Organize and facilitate the yearly TA orientation workshop for incoming TAs.			
• Revamp the 2022 and 2023 orientation workshops, including redesigning most of the modules and restructuring it from two days to one day.			
• Automate the deployment, data gathering and analysis, and result emailing of the TA evaluation surveys carried out each term.			
• Supervise and give 1-on-1 feedback to new TAs.			

INSTITUTO TECNOLÓGICO AUTÓNOMO DE MÉXICO			2016
Teaching Assistant , Department of Statistics			
2017 F&S	Undergraduate Faculty (answer questions from all courses).		
2016 Fall	EST-14102: Multivariate Probability.		
2016 Spring	EST-14102: Multivariate Probability.		

SERVICE

REVIEWER

- Transactions on Machine Learning Research (TMLR).
- International Conference on Teaching Statistics (ICOTS).

SERVICE TO UBC

- 2022–24 UBC Statistics Graduate Student Association, graduate student representative.
2023 UBC Faculty of Science external review, graduate student participant.
2021 UBC Statistics external review, graduate student participant.

SERVICE TO ITAM

- 2015–17 ITAM Math, Stats, and Actuarial Science student journal, Laberintos & Infinitos, editor (2015–2016) and editor in chief (2017).

DISTINCTIONS AND AWARDS

- 2021–25 UBC President’s Academic Excellence Initiative PhD Award (\$5,500 CAD).
2021–24 UBC Four Year Doctoral Fellowship (\$95,800 CAD).
2024 UBC Graduate Student Travel and Research Dissemination Fund (\$500 CAD).
2021–23 UBC Department of Statistics Entrance Scholarship (\$15,000 CAD).
2019–23 UBC International Tuition Award (\$16,000 CAD).
2021 UBC Department of Statistics Teaching Assistant Award (\$500 CAD).
2020 UBC SEC Research Day: prize for best master’s presentation (\$500 CAD).
2019 XXIV ITAM Alumni Research Awards: Honorable Mention, applied math category.

PROFESSIONAL EXPERIENCE

THE UNIVERSITY OF BRITISH COLUMBIA 2020–Present

Statistical Consultant, Department of Statistics

Projects that I have worked on:

- 2025 The effect of estrogen and progesterone on the way we breathe during exercise in hypoxia and normoxia (*mentor as TA of STAT 450*).
(Research based on subsequent consulting published in client's MSc thesis: S. Arn. (2025). *Hormones, hypoxia and exercise hyperpnoea: considerations of the menstrual cycle and hormone replacement therapy*. University of British Columbia.)
- 2022 The use of the R sounds in the variety of Portuguese spoken by Santomean immigrants in Portugal (*mentor as TA of STAT 450*).
- 2021 The right to Vancouverism: social reproduction placemaking in the revanchist city.
- 2021 An investigation on the role of urban neighborhood green spaces in mitigating stress inflicted due to the COVID-19 isolation.
- 2021 Sample size calculations and statistical analysis of key e-commerce metrics.
- 2020 Functional consequences of TMEM30A mutations in the survival of lymphoma.
- 2020 The sporting history and athlete development pathway of Canadian university athletes.
- 2020 Humane pigeon pest control management: Ovocontrol P at TransLink Skytrain stations.
- 2020 Navigational strategies in rats that lack newborn neurons.
- 2020 An analysis on commercial real estate property assessment and property tax in BC.
- 2020 Exploring the effect of environmental drivers on salmon condition during outmigration.

PFIZER INC 2016–2019

Business Analytics

Intern (2016), Analyst (2017), Coordinator (2018), Sr. Coordinator (2019)

I developed data-driven analyses and presented them to marketing directors with no formal statistical training. My last two projects were leading the development of a company-wide dashboard used in monthly in-depth business reviews and training a random forest model to identify potentially-loyal physicians.

MEXICO'S NATIONAL ELECTORAL INSTITUTE (INE) 2018

Research Assistant

The INE formed a nine-member and twelve-assistant committee to carry out quick counts for the 2018 Mexican general election. I worked as a research assistant for committee-member Dr. Manuel Mendoza. We improved his original Bayesian model, defined the sampling design used in Chiapas, and I developed the code for generating the official report for the Presidential election.