

Curriculum Vitae

Contact and Personal Information:

Name : Jabed Hossain Tomal
 Rank : Associate Professor (Tenured)
 Mail : Department of Mathematics and Statistics, Thompson Rivers
 University, 805 TRU Way, Kamloops, BC, Canada, V2C 0C8
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 URL : <https://faculty.tru.ca/jtomal/>
 Citizenship : Canadian

Research Interest:

- **Methodologies:** Statistical Machine learning, Bayesian methods, Longitudinal methods
- **Applications:** Drug discovery, Protein homology, Ecology, Genetics, Public health, Housing market, Educational research

Degrees:

- **Ph.D. in Statistics (2013):** The University of British Columbia, Vancouver, British Columbia, Canada (Overall Grade 92%). Thesis Title: Rare-class Classification using Ensembles of Subsets of Variables. Supervisors: Dr. Willim J. Welch and Dr. Ruben H. Zamar
- **M.Sc. in Statistics (2007):** University of Windsor, Windsor, Ontario, Canada (Overall Grade 13 out of 13). Thesis Title: Modelling Fish IBI with Agricultural Stress Gradient and Estimation of Threshold Effects. Supervisors: Dr. Karen Y. Fung & Dr. Jan J.H. Ciborowski
- **M.Sc. in Statistics (2001):** University of Dhaka, Dhaka, Bangladesh (First Class & First Merit Position). Thesis Title: Testing Proportionality and Independent Censoring in Proportional Hazards Model for Two-stage Data. Supervisor: Dr. M. Ataharul Islam
- **B.Sc. Honours in Statistics (1999):** University of Dhaka, Dhaka, Bangladesh (First Class & First Merit Position)

Employment:

1. **Thompson Rivers University, Kamloops, British Columbia, Canada**
 - Associate Professor, Department of Mathematics and Statistics (Effective: July 1, 2023)
 - Assistant Professor, Department of Mathematics and Statistics (Dec 2018 to June 2023)
 - Graduate Supervisor, Master of Data Science Program, Faculty of Science
 - Graduate Supervisor, Master of Environmental Sciences, Faculty of Science
 - Associate Graduate Supervisor, Master of Education

2. University of Toronto, Toronto, Ontario, Canada

- Mendelzon Visiting Assistant Professor, Department of Computer and Mathematical Sciences, University of Toronto, Scarborough Campus (Jul 2014 to Jun 2018)
- Associate Graduate Faculty Member, Department of Statistical Sciences, University of Toronto, St George Campus

3. University of British Columbia, Vancouver, British Columbia, Canada

- Postdoctoral Fellow, Department of Statistics (Jan 2014 to Jul 2014)
- Research and Teaching Assistant, Department of Statistics (Sep 2008 to Aug 2013)

4. University of Windsor, Windsor, Ontario, Canada

- Research and Teaching Assistant, Department of Mathematics and Statistics (Sep 2005 to Dec 2006)

5. University of Dhaka, Dhaka, Bangladesh

- Assistant Professor, Department of Statistics (Jan 2007 to Aug 2008)
- Lecturer, Department of Statistics (Mar 2002 to Aug 2005)
- Guest Lecturer, Institute of Statistical Research and Training (Jan 2003 to Aug 2005)

6. North South University, Dhaka, Bangladesh

- Visiting Assistant Professor, Department of Economics (Jan 2008 to Aug 2008)

Highlights:

- Student's Success: During 15-18, 2023, the master of data science thesis student Nikita Kholi will be presenting a poster from her thesis work at the Great Lakes Bioinformatics Conference 2023 to be held at the McGill University, Montreal, Canada.
- Student's Success: On April 20, 2023, the master of data science thesis student Nikita Kholi secured **first place** and **people's choice award** on the Three Minute Thesis (3MT) presentation. She will be presenting at the Western Regional 3MT Competition at the University of Saskatchewan on May 25.
- Student's Success: On October 12, 2022, the master of data science thesis student Bhavithry Sen Puliparambil published an article in the journal named *Biology* (Impact Factor: > 5)
- Student's success: In Summer 2022, the master of data science thesis student Bhavithry Sen Puliparambil received *TRU Governor General Gold Medal Award*.
- Student's success: In Winter 2022, the TRU environmental science student Marcus Atkins's article has appeared as the *featured student paper* at Behavioral Ecology and Sociobiology.
- Received NSERC Discovery Grant in 2021 for the research program titled "Methods for big data, sparsity, and environmental thresholds" for 2021-2026 and awarded \$102,500.

- Nominated for the *Pierre Robillard Award* in 2013 which recognizes the best PhD thesis defended at a Canadian university in a given year and written in the fields covered by The Canadian Journal of Statistics.
- Received *honourable mention* for my talk “Ensembling Classification Models Based on Phalanxes of Variables with Applications in Drug Discovery” in the SSC 2013 Annual Meeting in Edmonton, Alberta, Canada

Committee Membership:

- **May 3, 2023 to Date:** Member, Appointments Committee, Department of Mathematics and Statistics, Thompson Rivers University
- **May 3, 2023 to Date:** Member, Performance Review Committee, Department of Mathematics and Statistics, Thompson Rivers University
- **May 3, 2023 to Date:** Member, Workload Committee, Department of Mathematics and Statistics, Thompson Rivers University
- **January 25, 2022 to Date:** Shop Steward, Faculty Association, Thompson Rivers University
- **September 1, 2019 to Date:** Chair, Award and Scholarship Committee, Master of Data Science, Thompson Rivers University
- **September 1, 2019 to Date:** Graduate Committee, Master of Data Science, Thompson Rivers University
- **July 1, 2019 to Date:** Graduate Program Committee, Master of Data Science, Thompson Rivers University
- **May 1, 2019 to Date:** Equivalent workload committee, Faculty Association, Thompson Rivers University
- **October 5, 2020 to December 31, 2022:** Curriculum Committee for Post-Baccalaureate Program in Data Science, Thompson Rivers University
- **January 1, 2020 to April 30, 2023:** Senate Research Committee, Thompson Rivers University
- **January 2019 to April 2020:** Recruitment and retention committee, Department of mathematics and statistics, Thompson Rivers University

Articles

Journal (refereed):

1. **Tomal, JH.**, Welch, WJ., Zamar, RH. (2023). Robust ranking by ensembling of diverse models and assessment metrics. *Journal of Statistical Computation and Simulation (Taylor & Francis)*. 93: 1-26. doi: <https://doi.org/10.1080/00949655.2022.2093873>
2. Puliparambil, BS., **Tomal, JH.**, Yan, Y. (October 2022). A Novel Algorithm for Feature Selection Using Penalized Regression with Applications to Single-Cell RNA Sequencing Data. *Biology (MDPI)*. 11 (10), 1495. doi: <https://doi.org/10.3390/biology11101495>

3. **Tomal, JH.**, Khan, JR. and Wahed, AS. (2022). Weighted Bayesian Poisson Regression for The Number of Children Ever Born per Woman in Bangladesh. *Journal of Statistical Theory and Applications (Springer)*. 1-27. doi: <https://doi.org/10.1007/s44199-022-00044-2>
4. Chowdhury, RI., and **Tomal, JH.** (2022). Risk prediction for repeated measures health outcomes: A divide and recombine framework. *Informatix in Medicine Unlocked (Elsevier)*. 28: 100847. doi: <https://doi.org/10.1016/j.imu.2022.100847>
5. Atkins, M., Howarth, C., Russello, M., **Tomal, JH.**, and Larsen, K. (2022). Evidence of intrapopulation differences in rattlesnake defensive behavior across neighboring habitats. *Behavioral Ecology and Sociobiology (Springer)*. 76(3): 1-11. doi: <https://doi.org/10.1007/s00265-021-03100-6>
6. **Tomal, JH.**, and Rahman, H. (2021). A Bayesian piecewise linear model for the detection of breakpoints in housing prices. *METRON (Springer)*. 79(3): 361-381. doi: <https://doi.org/10.1007/s40300-021-00223-8>
7. Hsu, GG., **Tomal, JH.**, and Welch, WJ. (2021) EPX: An Ensemble of Classifiers Based on Phalanxes of Variables for Highly Unbalanced Binary Classification Problems. *Computers in Biology and Medicine (Elsevier)*. 136: 104760. doi: <https://doi.org/10.1016/j.compbio.2021.104760>
8. Khan, JR., **Tomal, JH.**, and Raheem, E. (2021) Model and Variable Selection using Machine Learning Methods with Applications to Childhood Stunting in Bangladesh. *Informatix for Health and Social Care (Taylor and Francis)*. 0: 1 - 18. doi: <https://doi.org/10.1080/17538157.2021.190493>
9. **Tomal, JH.**, Rahmati, S., Boroushaki, S., Jin, L., and Ahmed, E. (2021) The Impact of COVID-19 on Students' Marks: A Bayesian Hierarchical Modeling Approach. *METRON (Springer)*. 79: 57-91. doi: <https://doi.org/10.1007/s40300-021-00200-1>
10. **Tomal, JH.**, and Ciborowski, JJH. (2020) Ecological Models for Estimating Breakpoints and Prediction Intervals. *Ecology and Evolution (Wiley)*. 10:13500-13517. doi: <https://doi.org/10.1002/ece3.6955>
11. Evans, M., and **Tomal, JH.** (2018) Measuring Statistical Evidence and Multiple Testing. *FACETS*. 3: 563-583. doi: <https://doi.org/10.1139/facets-2017-0121>
12. **Tomal, JH.**, Welch, WJ., and Zamar, RH. (2017). Discussion of "Random-projection Ensemble Classification" by T.I. Cannings and R.J. Samworth. *Journal of the Royal Statistical Society: Series B (Statistical Methodology)*. 79(4): 1024-1025. doi: <https://doi.org/10.1111/rssb.12228>
13. **Tomal, JH.**, Welch, WJ., and Zamar, RH. (2016). Exploiting Multiple Descriptor Sets in QSAR Studies. *Journal of Chemical Information and Modeling*. 56(3): 501-509. doi: <https://doi.org/10.1021/acs.jcim.5b00663>
14. **Tomal, JH.**, Welch, WJ., and Zamar, RH. (2015). Ensembling Classification Models Based on Phalanxes of Variables with Applications in Drug Discovery. *The Annals of Applied Statistics*, 9(1): 69-93. doi: <https://doi.org/10.1214/14-AOAS778>

Conference (refereed):

1. Puliparambil, BS., **Tomal, JH.**, and Yan, Y. (2022). Benchmarking Penalized Regression Methods in Machine Learning for Single Cell RNA Sequencing Data. *In: Jin, L., Durand, D. (eds) Comparative Genomics. RECOMB-CG 2022. Lecture Notes in Computer Science, Vol: 13234.* (Springer). doi: https://doi.org/10.1007/978-3-031-06220-9_17
2. Lea, B., Shome, D., Waqar, O., and **Tomal, JH.** (2021). Sum rate maximization of D2D networks with energy constrained UAVs through deep unsupervised learning. *2021 IEEE 12th Annual Ubiquitous Computing, Electronics & Mobile Communication Conference (UEMCON)*, pp. 453-459. doi: <https://doi.org/10.1109/UEMCON53757.2021.9666500>
3. Ciborowski, JJH., Johnson, LB., **Tomal, JH.**, Fung, K., Bhagat, Y., and Zhang, J. (2009). The reference-degraded continuum—assessing biological condition relative to anthropogenic disturbance. *NABS 57th Annual Meeting.* Grand Rapids. <https://nabs.confex.com/nabs/2009/techprogram/P3834.HTM>

Other (non-refereed):

1. **Tomal, JH.**, Rahman, H. (2021). Updated report on Kamloops’s housing market. *Technical report*, Thompson Rivers University, Kamloops, British Columbia, Canada. https://faculty.tru.ca/jtomal/pages/Technical_report_Kamloops_housing.pdf
2. **Tomal, JH.**, Hsu, G., Welch, WJ., and Wang, M. (2020) EPX: Ensemble of Phalanxes. *R package version 1.0.4.* link: <https://cran.r-project.org/web/packages/EPX/index.html>
3. **Tomal, JH.**, and Ciborowski, JJH. (2020) Datasets relating (i) A wetland fish multimetric index to variation in agricultural stress among Laurentian Great Lakes coastal wetlands, (ii) Cyanobacteria biomass to total phosphorus concentrations among Canadian lakes. *Dryad, Dataset.* doi: <https://doi.org/10.5061/dryad.g79cnp5nr>
4. Ciborowski, JJH., Landry, J., Wang, L., and Tomal, JH. (2020) Compiling and Assessing Environmental Stress Data for the Detroit River Area of Concern. *Environment and Climate Change Canada*
5. Cai, Y., Cai, J., Chen, J., Golchi, S., Guan, M., Karim, ME., Liu, Y., **Tomal, JH.**, Xiong, C., Zhai, Y., Lum, C., Welch, WJ., Zidek, JV. (2016) An Epirical Experiment to Assess the Relationship Between the Tensile and Bending Strengths of Lumber. *Technical Report*, Department of Statistics, The University of British Columbia, Vancouver, BC, Canada. Link: <https://www.stat.ubc.ca/Research/TechReports/tr/276.pdf>

In Preparation:

1. **Tomal, JH.**, and Ciborowski, JJH. (2022) Detection of environmental thresholds by assessing discontinuities in slopes and variances via a Bayesian regression model. Preparing for **Methods in Ecology and Evolution**

2. **Tomal, JH.**, Ahmed, A., Rahman, M., and Nazemi, M. (2022) Association between students' class attendances and marks in STEM education with threshold effect. **The Canadian Journal for the Scholarship of Teaching and Learning**

Awards, Grants and Scholarships:

1. NSERC Discovery Grant from 2021 to 2026: $\$18,000 \times 5 = \$90,000 + \$12,500 = \$102,500$.
2. Research Training and Recognition Fund, TRU: \$7,900 (Fall 2022).
3. Research Training and Recognition Fund, TRU: \$7,900 (Fall 2021).
4. The Thompson Rivers University Internal Research Fund: \$5,000, Research Project: Ensemble of models for big data with applications to genetics
5. TRU Undergraduate Research Apprenticeship Fund: \$3,000, Research Project: Relationships between anthropogenic stresses and biological conditions of Detroit River Area of Concern (AOC)
6. Grant: \$6,000, Research Project: Compiling and Assessing Environmental Stress Data for the Detroit River and Lake Erie, 2018
7. Grant: \$14,000, 2014, University of Toronto Internal Research Support, Toronto, Ontario, Canada

Media Coverage:

1. The news of my research outcome has appeared in at least 30 newspapers, radios, and televisions across institution, city, province and the nation.
2. News about success of my student:
 - TRU News: <https://inside.tru.ca/2022/06/20/tru-student-awarded-prestigious-medal-for-academic-excellence/>
3. News of my NSERC Grant:
 - TRU News: <https://inside.tru.ca/2021/06/15/discovery-grants-support-innovative-tru-researchers/>
4. News about impact of my research:
 - TRU News: <https://inside.tru.ca/2022/03/15/tru-research-drives-meaningful-impact/>
5. A few news outlets covering my Kamloops housing research outcome:
 - TRU News: <https://inside.tru.ca/2021/11/12/research-shows-impact-of-bill-28-on-housing-prices/>
 - TRU News: <https://inside.tru.ca/2021/11/29/new-findings-support-kamloops-housing-spike/>
 - CFJC Today: <https://cfjctoday.com/2021/10/25/b-c-s-foreign-ownership-tax-led-to-sky-rocketing-price-growth-in-exempt-cities-like-kamloops-tru-study/>
 - INFONews: <https://infotel.ca/inhome/kamloops-housing-spike-correlates-with-bc-spec-tax-study/it86638>

- Radio NL: <https://www.radionl.com/2021/10/25/tru-study-shows-kamloops-home-prices-sky-rocketing-since-foreign-ownership-taxes-brought-in-for-other-cities/>
- The Abbotsford News: <https://www.abbynews.com/news/tru-researchers-suggest-bill-28-helped-fuel-chilliwack-real-estate-surge/>
- The Globe and Mail: <https://www.theglobeandmail.com/canada/british-columbia/article-will-a-federal-ban-on-foreign-real-estate-sales-cool-housing-prices/>
- CASTANET: <https://www.castanetkamloops.net/news/Kamloops/350488/TRU-professors-suggest-foreign-buyers-behind-rise-in-Kamloops-housing-prices>
- 98.3 CIFM: <https://www.983cifm.com/2021/10/25/b-c-s-foreign-ownership-tax-led-to-sky-rocketing-price-growth-in-exempt-cities-like-kamloops-tru-study/>
- B-100: <https://www.b100.ca/2021/10/25/b-c-s-foreign-ownership-tax-led-to-sky-rocketing-price-growth-in-exempt-cities-like-kamloops-tru-study/>
- HOPE STANDARD: <https://www.hopestandard.com/news/tru-researchers-suggest-bill-28-helped-fuel-chilliwack-real-estate-surge/>
- The Chilliwack Progress: <https://kamloops.me/2021/10/28/the-chilliwack-progress-tru-researchers-suggest-bill-28-helped-fuel-chilliwack-real-estate-surge-tru-newsroom/>

Teaching as a Principal Instructor:**1. Department of Mathematics and Statistics, Thompson Rivers University**

Course No.	Name	Semester
DASC 5420	Theoretical Machine Learning	Winter 2022, Summer 2021
DASC 6510	Bayesian and Deep Learning	Fall 2021, 2022
STAT 2000	Probability and Statistics	Winter 2023, 2021, 2020, 2019, Fall 2020, 2019, 2020
STAT 1200	Introduction to Statistics	Winter 2022
MATH 1140	Calculus 1	Winter 2023
MATH 1070	Math for Business and Economics	Winter 2020, Fall 2020, 2019

2. Department of Computer and Mathematical Sciences, University of Toronto Scarborough

Course No.	Name	Semester
STAC58H3	Statistical Inference	Winter 2018
STAC23H3	Intro to Stat for the Social Sciences	Winter 2018
STAC62H3	Stochastic Processes	Fall 2017
STAC67H3	Regression Analysis	Fall 2017, 2015, 2014
STAB57H3	An Introduction to Statistics	W 2017, 2016, 2015, F 2016
STAB52H3	An Introduction to Probability	Fall 2014
STAD92H3	Logistic Regression and Parallel Computing using R	Summer 2015

3. Department of Statistics, University of Dhaka

Course No.	Name
STAT M512	Advanced Biostatistics
STAT H414	Computer Based Statistical Computing
STAT H407	Biostatistics
STAT H403	Order Statistics and Nonparametric Methods
STAT H309	Time Series Analysis
STAT H308	Computer Packages (SPSS & SAS)
STAT H205	Computer Programming (ForTran & S-plus)
STAT H203	Mathematical Statistics-I
STAT H104	Introduction to Computers

4. Institute of Statistical Research and Training, University of Dhaka

Course No.	Name
AST H407	Econometrics
AST H304	Business Statistics
AST H208	Computer Programming I (ForTran & S-plus)

5. Department of Economics, North South University

Course No.	Name
ECO/BUS 173	Applied Statistics
ECO/BUS 172	Introduction of Statistics

Invited Talks:

1. **Tomal, JH.**¹ (September 27, 2022). Ensembling Classification Models Based on Phalanxes of Variables with Applications in Drug Discovery. Department of Mathematics and Statistics, University of Victoria, Victoria, British Columbia, Canada.
2. **Tomal, JH.**¹ and Welch, WJ. (May 31, 2022). Robust Ranking by Ensembling of Diverse Models and Assessment Metrics, *49th Annual Meeting*, Statistical Society of Canada, Virtual Meeting.
3. **Tomal, JH.** (March 10, 2022). A Bayesian piecewise linear model for the detection of breakpoints in housing prices. *Master of Science in Data Science Seminar Series*, Thompson Rivers University, Kamloops, British Columbia, Canada.
4. **Tomal, JH.** (January 6, 2022). A Survey Weighted Bayesian Poisson Regression to Model the Number of Children Ever Born per Woman in Bangladesh. *Department of Statistics, University of Dhaka, Dhaka-1000, Bangladesh.*
5. **Tomal, JH.**¹ and Ciborowski, JJH. (December 5, 2020) Detection of environmental thresholds by assessing discontinuities in slopes and variances via a Bayesian regression model. *Canadian Mathematical Society (CMS)*, Virtual Winter Meeting, Canada
6. **Tomal, JH.** (November 19, 2019) Ensemble of models for big data, sparsity, environmental thresholds and wildfire prediction, *Senate Research Committee*, Thompson Rivers University, Kamloops, BC, Canada
7. Ciborowski, JJH.¹ and **Tomal, JH.** (November 14, 2019) Environmental Monitoring - Developing Bioindicators of Environmental Condition and Recovery from Degradation. *Environmental Sciences Seminar Series*, Environmental Sciences, Thompson Rivers University, Kamloops, BC, Canada
8. **Tomal, JH.**¹, Welch, WJ., and Zamar, RH. (February 9, 2018) Ensembles of Models and Metrics for Robust Ranking of Homologous Proteins. *Department of Mathematics & Computer Science, University of Lethbridge*, Lethbridge, Alberta, Canada
9. **Tomal, JH.**¹, Welch, WJ., and Zamar, RH. (May 29, 2017) Construction of Ensemble by Exploiting the Richness of Feature Variables in High-Dimensional Data with Applications in Protein Homology. *Institute of Statistical Research and Training*. University of Dhaka, Dhaka, Bangladesh
10. **Tomal, JH.**¹, Welch, WJ., and Zamar, RH. (December 7 - 9, 2016) Construction of Ensemble by Exploiting the Richness of Feature Variables in High-Dimensional Data with Applications in Protein Homology. *Emerging Big Data Technologies Summit*. Hosted by the International Innovative Research Network In partnership with Crown Vision Technology. Melbourne, Australia
11. **Tomal, JH.**¹, Welch, WJ., and Zamar, RH. (May 25 - 27, 2016) Construction of Ensemble by Exploiting the Richness of Feature Variables in High-Dimensional Data with Applications in Protein Homology. *6th International Workshop on the Perspectives on High-Dimensional Data Analysis (HDDA-VI)*. The Fields Institute, Toronto, Ontario, Canada
12. **Tomal, JH.**¹, Welch, WJ., and Zamar, RH. (May 18 - 21, 2016) Ranking Homologous Proteins using Ensemble of Phalanxes Based on Logistic Regression Model. *International Conference on Information Complexity and Statistical Modeling in High Dimensions with Applications (IC-SMHD-2016)*. Cappadocia, Nevsehir, Turkey

13. **Tomal, JH.**¹, Welch, WJ., and Zamar, RH. (December 27 - 29, 2015) Ranking Homologous Proteins using a Fast Ensemble of Phalanxes Based on Logistic Regression Model. *The Second International Conference on Theory and Applications of Statistics*. University of Dhaka, Dhaka, Bangladesh
14. **Tomal, JH.** (June 18, 2014) Ensembling Classification Models Based on Phalanxes of Variables with Applications in Drug Discovery. *Department of Statistical Sciences, University of Toronto*. Toronto, Ontario, Canada

Contributed Talks:

1. **Tomal, JH.**¹ (March 8, 2023). Ensembling Classification Models Based on Phalanxes of Variables with Applications in Drug Discovery. *Master of Science in Data Science Seminar Series*, Thompson Rivers University, Kamloops, British Columbia, Canada.
2. **Tomal, JH.** (March 31, 2022). Weighted Bayesian Poisson Regression for The Number of Children Ever Born per Woman in Bangladesh, *Seminar Series*, Department of Mathematics and Statistics, Thompson Rivers University, BC, Canada.
3. **Tomal, JH.** (March 3, 2021). A Bayesian Approach to Accounting for Survey Weights in Poisson Regression: Application to Model the Number of Children Ever Born among Married Women of Reproductive Age in Bangladesh. *Data Science Seminar Series*, Thompson Rivers University, Kamloops, BC, Canada
4. **Tomal, JH.**¹, Ahmed, E., and Rahman, M. (February 18, 2020). The Impact of Class Attendance on Student Performance at TRU. *Teaching Practices Colloquium*, Thompson Rivers University, Kamloops, BC, Canada
5. **Tomal, JH.** (April 11, 2019). Predicting Homologous Proteins using an Ensemble of Subsets of Variables. *Faculty of Science Seminar Series*, Thompson Rivers University, Kamloops, British Columbia, Canada
6. **Tomal, JH.** (June 3 - 6, 2018). Ensemble of Subsets of Variables for Ultra-High-Dimensional Regression and Classification. *46th Annual Meeting of the Statistical Society of Canada*. McGill University, Montréal, Québec, Canada
7. **Tomal, JH.**¹, Ciborowski, Jan JH., Fung, K. (June 11 - 14, 2017). Piecewise Linear Quantile Regression for the Estimation of Ecological Breakpoints. *45th Annual Meeting of the Statistical Society of Canada*. University of Manitoba, Winnipeg, Manitoba
8. **Tomal, JH.**¹, Welch, WJ., and Zamar, RH. (July 30 - August 4, 2016). Ranking Homologous Proteins Using an Ensemble of Logistic Regression Models Based on Subsets of Feature Variables. *Joint Statistical Meeting 2016*. Chicago, USA
9. **Tomal, JH.**¹, Welch, WJ., and Zamar, RH. (June 14 - 17, 2015). Ranking Homologous Proteins using a Fast Ensemble of Phalanxes Based on Logistic Regression Model. *43rd Annual Meeting of the Statistical Society of Canada*. Dalhousie University, Halifax, NS
10. **Tomal, JH.**¹, Welch, WJ., and Zamar, RH. (May 27, 2013). Ensembling Classification Models Based on Phalanxes of Variables with Applications in Drug Discovery. *41st Annual Meeting of the Statistical Society of Canada*. University of Alberta, Edmonton, AB

¹Presenting Author

11. **Tomal, JH.**¹, Welch, WJ., and Zamar, RH. (September 2012). Ensembling Classification Models Based on Phalanxes of Variables with Applications in Drug Discovery *Department of Statistics, University of British Columbia*, Earth Sciences Building, 2207 Main Mall, Vancouver, BC V6T 1Z4
12. **Tomal, JH.**¹, Welch, WJ., and Zamar, RH. (September 2012). Ensembling Descriptor Sets using Phalanxes of Variables to Rank Activity of Compounds in QSAR Studies. *SFU/UBC Joint Graduate Student Seminar*, Vancouver, BC
13. **Tomal, JH.**¹, Welch, WJ., and Zamar, RH. (June 2012). Ensembling Descriptor Sets to Rank Activity of Compounds in QSAR Studies. *40th Annual Meeting of the Statistical Society of Canada*. University of Guelph, Guelph, ON
14. **Tomal, JH.** (March 2012). Concepts and Algorithms in Detection Problems. *Graduate Students' Seminar*, Department of Statistics, University of British Columbia, Vancouver, BC V6T 1Z4
15. **Tomal, JH.** (March 2010). Ensemble of Classifiers and their Applications in Drug Discovery. *Graduate Students' Seminar*, Department of Statistics, University of British Columbia, Vancouver, BC V6T 1Z4

Research Supervision:

1. **Graduate Thesis** (Role: Supervisor): *Topics: To be decided soon*, Master of Data Science, Thompson Rivers University. Supported by: NSERC DG. Student's Name: Ayisha Najeeha. Start Date: September 1, 2023. Potential End Date: April 30, 2025.
2. **Graduate Thesis** (Role: Supervisor - Cosupervisor: Dr. Md Erfanul Hoque): *Finding structural breaks in the housing market in British Columbia as a result of changing policies and regulations by the governments*, Master of Data Science, Thompson Rivers University. Supported by: NSERC DG. Student's Name: Khanh Tran. Start Date: May 1, 2023. Potential End Date: April 30, 2024.
3. **Graduate Thesis** (Role: Supervisor - Joint supervisor: Dr. Yan Yan): *Machine Learning and Association Analysis on Whole-genome SNP Data*, Master of Data Science, Thompson Rivers University. Supported by: NSERC DG. Student's Name: Nikita Kohli. Start Date: February 1, 2022. Potential End Date: June 30, 2023.
4. **Graduate Thesis** (Role: Supervisor - Joint supervisor: Dr. Mateen Shaikh): *Threshold effects of governmental policies on housing prices in cities nearby Vancouver, BC*, Master of Data Science, Thompson Rivers University. Supported by: NSERC DG. Student's Name: Tarique Mahmud. Start Date: February 1, 2022. Potential End Date: April 30, 2023.
 - Note: The student Tarique Mahmud has recently moved from thesis to project option due to his family situation.
5. **Graduate Thesis** (Role: Supervisor - Joint supervisor: Dr. Yan Yan): *Benchmarking penalized regression methods in machine learning for single-cell RNA sequencing data*, Master of Data Science, Thompson Rivers University. Supported by: NSERC DG and TRU internal research fund. Student's Name: Bhavithry Sen Puliparambil. Start Date: May 1, 2021. Defended: April 20, 2022, Completed: April 30, 2022.

6. **Graduate Thesis** (Role: Co-supervisor - Supervisor: Dr. Piper Jackson): *Machine Learning and Patient Partner Engagement to Predict Home Care Service Usage*, Thompson Rivers University. Student's Name: Robin Teotia. Start Date: September 1, 2021. Defended: April 20, 2022. Completed: May 31, 2022.
7. **Graduate Project** (Role: Supervisor - Co-supervisor: Dr. Mateen Shaikh): *Ensemble of classifiers using genetic algorithm with application to drug discovery*, Master of Data Science, Thompson Rivers University. Student's Name: Quoc Thanh Pham. Start Date: September 1, 2021. Defended: April 22, 2022. Probable End Date: August 31, 2022.
8. **Undergraduate Project** (Role: Co-supervisor - Supervisor: Dr. Omer Waqar): *Optimizing UAV-assisted Communication Networks using Deep Learning*, Thompson Rivers University. Supported by: Undergraduate Research Experience Award Program (UREAP). Student's Name: Benjamin Lea. Start Date: April 15, 2021. End Date: November 30, 2021.
9. **Undergraduate Project** (Role: Co-supervisor - Supervisor: Dr. Musfiq Rahman): *Machine learning to discern among fuel type layer (FTL) classes using multi-spectral satellite imagery, for wildfire management decision-making support in BC*, Thompson Rivers University. Supported by: Undergraduate Research Experience Award Program (UREAP). Student's Name: Francesca Ramunno. Start Date: May 1, 2019. End Date: November 30, 2019
10. **Undergraduate Project** (Role: Co-supervisor - Supervisor: Dr. Musfiq Rahman): *Detection of fuel type later classes using unsupervised classifiers for wildfire management decision making support in BC*, Thompson Rivers University. Student's Name: Gagan Sing. Start Date: September 1, 2019. End Date: December 31, 2019
11. **Undergraduate Project** (Role: Co-supervisor - Supervisor: Dr. Musfiq Rahman): *Detection of fuel type later classes using supervised classifiers for wildfire management decision making support in BC*, Thompson Rivers University. Student's Name: Bradley Crump. Start Date: September 1, 2019. End Date: December 31, 2019
12. **Undergraduate Project** (Role: Supervisor): *Relationships between Anthropogenic Stresses and Biological Conditions of Detroit River Area of Concern*, Department of Mathematics and Statistics, Thompson Rivers University. Supported by research fund of Jabed Tomal. Student's Name: Marium Tawhid. Start Date: June 1, 2019. End Date: December 31, 2020
13. **Undergraduate Project** (Role: Supervisor): *Variable Selection in High-Dimensional Data*, Department of Computer and Mathematical Science, University of Toronto Scarborough. Student's Name: Jenkin Tsui. (STAD94H3: Statistics Project - Winter 2018)

Committee Member:

1. **Graduate Thesis:** Behaviour Recognition Techniques for HCI: A Comparative Analysis of Computer Vision, Deep Learning, and Machine Learning Approaches, Shohada Sharmin, Master of Data Science, TRU, Supervisor: Dr. Musfiq Rahman. Probable Completion Date: April 30, 2024.
2. **Graduate Thesis:** Deep Learning assisted mobile-edge computing networks, Bindubritta Acharjee, Master of Data Science, TRU, Supervisor: Dr. Omer Waqar. Probable Completion Date: August 31, 2023.

3. **Graduate Thesis:** Designing Next-Generation Clinical Trial Recommendation System, Sarah Chopra, Master of Data Science, TRU, Supervisors: Dr. Emad Mohammed and Dr. Roger Yu. Probable Completion Date: April 30, 2023.
4. **Graduate Project:** Feature selection of GWAS using machine learning techniques, Haritha Paladugu, Master of Data Science, TRU, Supervisor: Dr. Yan Yan. Probable Completion Date: August 31, 2022.
5. **Graduate Thesis:** Solving a feature selection problem with a hybrid swarm intelligent algorithm, Sadia Zannat, Master of Data Science, TRU, Supervisor: Dr. Mohamed Tawhid. Probable Completion Date: August 31, 2022.
6. **Graduate Thesis:** Variation and Ontogeny of Migratory Tactics in British Columbia's Western Rattlesnake (*Crotalus oreganus*), Chloe Howarth, Master of Environmental Sciences, TRU, Supervisor: Dr. Karl Larsen. Probable Completion Date: August 31, 2022.
7. **Graduate Thesis:** Credit Risk Modeling: A Comparative Analysis of Artificial and Deep Neural Network, Marriappan Vasudevan, Master of Business Administration, TRU, Supervisor: Dr. Mohammad Mahbobi. Defended: April 29, 2020
8. **Graduate Thesis:** Pain in my Bass: Diet and Distribution of Invasive Small-mouth Bass (*Micropterus Dolomieu*) in Cultus Lake, British Columbia, Wendy Margetts, Master of Environmental Sciences, TRU, Supervisor: Dr. Brian Heise. Defended: April 25, 2022.
9. **Graduate Thesis:** Spatiotemporal Variation in Throughfall Patterns in Pine and Sagebrush, Alexis Carter, Environmental Science, TRU, Supervisor: Dr. Tom Pypker. Probable Completion Date: Uncertain.

Computing and Technical Skills:

- **Parallel Computing:** To analyze high-dimensional data, I extensively use parallel computing. The computations in my Ph.D. thesis are completed through parallel execution of R & C codes in the Statistics Department's servers of UBC and in the Western Canada Research Grid (WestGrid) servers
- **Programming Language:** R, Python, C/C++ (my all-time companion), ForTran, S-plus (used in my past research and *taught* in the undergraduate level at the University of Dhaka)
- **Statistical Package:** SPSS & SAS: (used in my past research and *taught* in the undergraduate level at the University of Dhaka. Furthermore, I taught SPSS in the "SPSS Training Program" at the University of Dhaka)
- **Document Preparation & Presentation:** Latex (all-time companion)

Conference Organization:

1. Judge, Case studies for students' posters, 49th Annual Meeting, Statistical Society of Canada. Held in May 30 - June 3, 2022.
2. Invited Session Organization: 2022 Annual Meeting of the Statistical Society of Canada, Session Titled: *Ensemble Learning via Diverse and Random Projections of Features*. Held in May 30 - June 3, 2022.
3. Scientific Committee Member: First International Conference on Business, X-Events and Analytics, Austria Trend Pakhotel Schönbrunn, Vienna, Austria, Held in November 23-24, 2017

4. International Advisory Committee Member: International Conference on Bioinformatics and Biostatistics for Agriculture, Health and Environment, University of Rajshahi, Rajshahi, Bangladesh, January 20-23, 2017

Professional Affiliation:

- Member: Statistical Society of Canada, 209-1725 St. Laurent Blvd. Ottawa, ON K1G 3V4
- Member: American Statistical Association, 732 North Washington Street, Alexandria, VA 22314-1943
- Life Member: Bangladesh Statistical Association, c/o Institute of Statistical Research and Training, University of Dhaka, Dhaka-1000, Bangladesh

Volunteer Experience:

- **Organizing Secretary (July 2012 - June 2014):** Greater Vancouver Bangladesh Cultural Association (GVBCA), Vancouver, BC, Canada
- **Secretary (February 2012- February 2013):** Bangladesh Students' Association (BSA) at UBC, The University of British Columbia, Vancouver, BC, Canada
- **Founder Executive (2007 - 2008):** SPSS Training Program, Department of Statistics, University of Dhaka, Dhaka-1000, Bangladesh