CURRICULUM VITA

1 PERSONAL INFORMATION AND BACKGROUND

1.1 Personal Information

Name: Farhad Shokoohi
Nationality: Permanent Resident (PR) of Canada, Iranian

1.2 Addresses

Address:
Department of Mathematics and Statistics, Concordia University
S-LB 915-1, 1455 de Maisonneuve Blvd. W., Montreal, Quebec, Canada, H3G 1M8
Phone: (514) 848-2424 ext. 4017 Emails: shokoohi@icloud.com & farhad.shokoohi@concordia.ca

1.3 Research Interests

Epigenetics, High-dimensional Problems, Mixture Models, Survival Analysis, Variable Selection, Data Science, Frequentist and Bayesian Analysis, Computational Statistics, Small Area Estimation, Nonparametric Statistics, Data Mining.

1.4 Current Position

- Assistant Professor, *Aug. 2017 - Continued*
  Department of Mathematics & Statistics, Concordia University, Montreal, QC, Canada

1.5 Education and Appointments

- Postdoctoral Fellow, *Jan. 2017 - Jul. 2017*
  McGill University and Lady Davis Institute for Medical Research, Montreal, QC, Canada
  Project Title: High-dimensional Genomics and Epigenetics
  Supervisors: Professor Celia Greenwood, Professor David Stephens and Professor Aurélie Labbe
- Postdoctoral Fellow, *Jan. 2015 - Dec. 2016*
  Department of Mathematics & Statistics, McGill University, Montreal, QC, Canada
  Project Title: High-dimensional Genomics and Epigenetics
  Supervisors: Professor David Stephens and Professor Aurélie Labbe
- Visiting Scholar, *Sep. 2014 - Nov. 2014*
  Department of Statistics, The Ohio State University, Columbus, Ohio, USA.
  Project Title: Computational Methods for the Analysis of Metagenomics Count Data.
  Supervisor: Professor Shili Lin

- Postdoctoral Fellow, *Sept. 2013 - Aug. 2014*
  Department of Mathematics and Statistics, McGill University, Montreal, QC, Canada
  High-dimensional data analysis in finite mixture of survival models when observations are subject to right censoring.
  Supervisors: Professor Masoud Asgharian and Professor Abbas Khalili

- Postdoctoral Fellow, *Jan. 2013 - Aug. 2013*
  Department of Community Health Sciences, University of Manitoba, Winnipeg, Canada
  Advanced Methods in Mixed Models.
  Supervisor: Professor Mahmoud Torabi

- Ph.D. in Statistics (Dean's Honour List, First Class Honours), *Sep. 2006 - Sep. 2012*
  Department of Statistics, Shahid Beheshti University, Tehran,
  Thesis: *Likelihood Inference in Small Area Estimation by Combining Time Series and Cross-Sectional Data, and Nonparametric Methods* (Evaluation Result: Excellent).
  Advisor: Professor Mohammad Reza Meshkani (retired)

- Graduate Research Trainee, *Feb. 2011 - Sep. 2011*
  Department of Community Health Sciences, University of Manitoba, Winnipeg, Canada.
  Project Title: Some Contributions to Small Area Estimation.
  Supervisor: Professor Mahmoud Torabi

- Graduate Research Trainee, *May 2010 - Nov. 2010*
  Department of Economics, Finance and Statistics, University of Perugia, Perugia, Italy.
  Project Title: Nonparametric Small Area Estimation.
  Supervisor: Professor Maria Giovanna Ranalli

- M.Sc. in Mathematical Statistics (Dean's Honour List), *Sep. 2003 - Jul. 2006*
  Department of Statistics, Shahid Beheshti University, Tehran,
  Thesis: *Bayesian Inference in Generalized Poisson Distribution* (Evaluation Result: Excellent).
  Advisor: Professor Mohammad Reza Meshkani (retired)

- B.Sc. in Mathematical Statistics (Dean's Honour List, First Class Honours), *Sep. 1999 - Sep. 2003*
  Department of Statistics, Razi University, Kermanshah, Iran,
  Thesis: *Statistical Inference using S-Plus* (Evaluation Result: Excellent).

1.6 Awards and Recognitions

- Ranked 1st among Ph.D. students graduated in Statistics *Sep. 2012*
  Shahid Beheshti University, Tehran, Iran.

- Ministry of Culture and Higher Education of Iran Scholarship *2010 - 2011*
  Scholarship for visiting abroad

- Ranked 4th in Ph.D. entrance exam (Nationwide) *Jul. 2006*

- Ranked 1st awarded to the top student graduated from Bachelor of Science in Statistics *Sep. 2003*
  Razi University, Kermanshah, Iran

- Team ranked 1st, National Students Contest in Statistics, Tehran, Iran *Aug. 2002*

2 RESEARCH ACTIVITIES

2.1 Publications

a) Under revision / revision submitted

- **Shokoohi, F.**, Torabi, M. (2017), Semi-Parametric Small-Area Estimation by Combining Time-Series and Cross-Sectional Data. *revision submitted.*

b) Submitted / to be submitted

- **Shokoohi, F.**, Khalili, A., Asgharian, M., and Lin, S. (2017), Capturing heterogeneity of covariate effects in hidden subpopulations in the presence of censoring and large number of covariates. *submitted.*
- **Shokoohi, F.**, Stephens, D.A., Bourque, G., Pastinen, T., Greenwood, C. and Labbe, A. (2017). A Novel Profiling Method for Identifying Differentially Methylated Sites in Bisulfite Sequencing Data. *submitted.*
- **Shokoohi, F.**, Stephens, D., Labbe, A., and Greenwood, C. (2017), DMCHMM: an R package to identify differentially methylated CpG Sites using Hidden Markov Models. *submitted.*
- **Shokoohi, F.**, Khalili, A., Asgharian, M., and Lin, S. (2017), fmrs: an R Package for Variable Selection in Finite Mixture of AFT Regression Models. *to be submitted.*

c) Peer Reviewed

- Torabi, M. and **Shokoohi, F.** (2015) Non-parametric generalized linear mixed models in small area estimation, *Canadian Journal of Statistics*, **43**, 82-96, DOI: 10.1002/cjs.11236
- Torabi, M. and **Shokoohi, F.**(2014) Hierarchical Bayes Estimation in Small Area Estimation Using Cross-Sectional and Time-Series Data, *J. of Statistical Computation and Simulation*, **84**, 605-613.
- Mahmoudvand R., Edalati, A. and **Shokoohi, F.** (2013) Bonus-Malus System in Iran: An Empirical Evaluation, *Journal of Data Science*, **11**, 29-41.
- Torabi, M. and **Shokoohi, F.** (2012). Likelihood Inference in Small Area Estimation by Combining Time-Series and Cross-Sectional Data, *Journal of Multivariate Analysis*, **111**, 213-221.
- Kaviani, M., Nourshahi, M. and **Shokoohi, F.** (2009). The effects of acute L-carnitine administration on ventilatory breakpoint and exercise performance during incremental exercise, *Journal of Mazandaran University of Medical Science*, **19(73)**, 43-50 (in Persian).

d) Published and Peer Reviewed Projects

- **Shokoohi, F.** (2011) Bonus-Malus System for Automobile Third Party Liability Insurance in Other Countries and Suggesting a Suitable System for Iran, *Insurance Research Centre, Affiliated to the Central Insurance of Iran.* (Referred publication)

2.2 Talks

a) Invited Talks

- Stephens, D.A., **Shokoohi, F.** and Labbe, A. (2016). A Novel Hidden Markov Model Approach to Analyze Sequencing-based DNA Methylation Data, 44*th Annual Meeting of the Statistical Society of Canada*. will be Held May 29 - June 1, 2016 at Brock University, St. Catharines ON, Canada.
- Torabi, M and **Shokoohi, F.** (2013) Non-parametric Small Area Estimation, *the JSM 2013*. Montreal, QC, Canada.
- **Shokoohi, F.** (2007). Bayesian Inference in Generalized Poisson Distribution, *Central Insurance of Iran*
- **Shokoohi, F.** (2003) Record Statistics, 1*st Statistics and Mathematics Student Conference, Razi University, Kermanshah, Iran.*

b) Departmental Talks

- **Shokoohi, F.** (2017). New insight into the role of heterogeneity in Ovarian Cancer Data. March 6, 2017, Lady Davis Institute for Medical Research, Montreal, QC, Canada.
- **Shokoohi, F.** (2016). Variable Selection in Finite Mixture of Survival Models for Biomedical Genomic Studies. September 25, 2016, Shahid Beheshti University, Iran.
- **Shokoohi, F.** (2016). Variable Selection in Finite Mixture of Survival Models for Biomedical Genomic Studies. September 24, 2016, Tarbiat Modarres University, Iran.
- **Shokoohi, F.** (2016). A Novel Hidden Markov Model Approach to Analyze Sequencing-based DNA Methylation Data, Lady Davis Institute. April 29, 2016, Montreal, Canada.
- **Shokoohi, F.** (2016) Feature selection in high-dimensional heterogeneous time-to-event data; A study on Ovarian Cancer, March 8, 2016, *EBOH, McGill University,* Montreal, QC, Canada.
- **Shokoohi, F.** (2016) Feature selection in high-dimensional heterogeneous time-to-event data; A study on Ovarian Cancer, March 4, 2016, *GERAD,* Montreal, QC, Canada.
- **Shokoohi, F.** (2014) Variable Selection in Mixture Models with Observations Subject to Right Censoring, March. 27, 2014, *Department of Mathematics, University of Sherbrooke,* Sherbrooke, QC, Canada.
- **Shokoohi, F.** (2013) Some Recent Developments in Likelihood-Based Small Area Estimation, October 4, 2013, *Department of Mathematics and Statistics, McGill University,* Montreal, QC, Canada.
- **Shokoohi, F.** (2013). Likelihood Inference in Small Area Estimation by Combining Time Series and Cross-Sectional Data, *Department of Statistics, University of Manitoba.* March 21, 2013.
- **Shokoohi, F.** (2012). Some Contribution to Small Area Estimation, *Department of Statistics, Shahid Beheshti University.*

c) Contributed Talks

- **Shokoohi, F.** (2017). A Novel Hidden Markov Model Approach for Differentially Methylated CpG site Identification in DNA methylation Data, 45*th Annual Meeting of the Statistical Society of Canada.* June 11-June 14, 2017 at University of Manitoba, Winnipeg, MB, Canada.

- **Shokoohi, F.** (2016). Feature selection in high-dimensional heterogeneous time-to-event data; A study on Ovarian Cancer, 44*th Annual Meeting of the Statistical Society of Canada*. May 29-June 1, 2016 at Brock University, St. Catharines, ON, Canada.
- **Shokoohi, F.**, Labbe, A., and Stephens, D.A. (2015). DNA Methylation Analysis; A Thorough Comparison of Available Analytic Tools, 43*rd Annual Meeting of the Statistical Society of Canada*. June 14-17, 2015 at Dalhousie University, Halifax, NS, Canada.
- **Shokoohi, F.**, Asgharian, M., Khalili, A. and Lin, S. (2013). Variable Selection in Mixture of Survival Models, 42*nd Annual Meeting of the Statistical Society of Canada*. May 25-28, 2013, University of Toronto, Toronto, ON, Canada.
- **Shokoohi, F.** (2013). Likelihood Inference in Small Area Estimation Using P-Spline and Time Series Models, *JSM 2013*. August 3-8, 2013, at the Palais des congrés de Montreal, Montreal, QC, Canada.
- **Shokoohi, F.** (2013). Bayesian Small Area Estimation Using P-Spline and Time Series Models, 41*st Annual Meeting of the Statistical Society of Canada*. May 26-29, 2013, University of Alberta, Edmonton, Alberta.
- **Shokoohi, F.** (2012). Small Area Estimation Based on Data Cloning Approach, 11*th Iranian Statistical Conference*. August 28-30, 2012, University of Science and Technology, Tehran, Iran.
- **Shokoohi, F.** (2002). Record Statistics, 1*st Statistics and Mathematics Student Conference*. Razi University, Kermanshah, Iran.

2.3 Research Grants

- Insurance Research Center, The Central Insurance of Iran (2013-2014), *$5,000*
  Modern Actuarial Risk Theory.
- Statistical Research and Training Center, The Statistics Center of Iran (2011-2012), *$1,500*
  Likelihood Inference in Small Area Estimation and its Application to Unemployment Rate.
- Insurance Research Center, The Central Insurance of Iran (2009-2011), *$20,000*
  Bonus-Malus System for Automobile Third Party Liability Insurance in Other Countries and Suggesting a Suitable System for Iran.
- Insurance Research Center, The Central Insurance of Iran (2005-2006), *$10,000*
  Rate Making of Third Party Liability Car Insurance Based on Data Mining Techniques.
- Insurance Research Center, The Central Insurance of Iran (2005-2006), *$1,000*
  Bayesian Inference in Generalized Poisson Distribution and its Application in Actuarial Science.

2.4 Software Development

- **DMCHMM**: Shokoohi, F. (2016). *DMCHMM: an R package to identify differentially methylated CpG Sites using Hidden Markov Models,* R package version 0.99-14, https://bioconductor.org/packages/DMCHMM/. *accepted after peer reviewed.*
- **fmrs**: Shokoohi, F. (2016). *fmrs: Variable Selection in Finite Mixture of AFT Regression and FMR models,* R package version 1.0-9, https://cran.rstudio.com/web/packages/fmrs

3 Teaching Experience

3.1 Coordinator / Instructor/ Lecturer

University	City	Year	Course Title	In-Class Hours	Credits	#Students
Concordia	Montreal	2017	Linear Models (STAT 360 (MATH 601D))	45	3	30
Concordia	Montreal	2017	Applied Probability (MAST 221)	45	3	60
Concordia	Montreal	2017	Applied Ordinary Differential Equations (ENGR 213)	45	3	130
Concordia	Montreal	2018	Statistics (STAT 250)*	45	3	65
Concordia	Montreal	2018	Statistics (STAT 250)*	45	3	65
Concordia	Montreal	2018	Statistical Simulation (STAT 461 (MAST 729K, and 881K))*	45	3	45
McGill	Montreal	2017	Regression (graduate course) (EPIB 521)	45	3	15
McGill	Montreal	2016	Calculus 2 (MATH 141)	45	3	364
McGill	Montreal	2015	Fundamental of Mathematics (MATH 112)	45	3	22
SBU [1]	Tehran	2009	Statistics and Probability I	60	4	50
		2008	Statistics and Probability II	60	4	50
		2009	Statistics and Probability for Engineering	45	3	50
Allameh	Tehran	2010	Sampling Theory and its Applications I	60	3	50
		2008	Sampling Theory and its Applications I	45	3	50
		2008	Sampling Theory and its Applications II	45	3	50
ECOCI[2]	Tehran	2008	Statistics for Risk Management	45	3	50
IIKU[3]	Qazvin	2010	Mathematical Statistics II	60	4	50
		2009	Advanced Statistical Methods	45	3	50
		2009	Continuous Multivariate Methods	45	3	50
		2009	Sampling Theory and its Applications II	45	3	50
		2009	Statistics for Engineering	45	3	50
		2009	Statistics and Probability II	60	4	50
Razi	Kermanshah	2002	Statistical Analysis Using SAS	30	0	15
		2002	Statistical Analysis Using SPSS	30	0	20

* Scheduled to be taught in Winter 2018; [1]Shahid Beheshti University; [2]The ECO college of Insurance; [3]International Imam Khomeini University

3.2 Teacher Assistant

University	City	Year	Course Title	In-Class Hours	Credits	#Students
SBU	Tehran	2003	Regression Analysis	13	3	50
		2004	Design of Experiments II	13	3	50

4 STUDENT SUPERVISION

4.1 Bachelor

- Jing Wang, Bachelor in Mathematics, Department of Mathematics and Statistics, McGill University. {Co-advisor} 2014

5 Other Work Experiences

- Lecturer, *Sep. 2015 - Dec. 2015*
  Department of Mathematics and Statistics, McGill University, Montreal, Quebec, Canada.
- Statistical Consultant, *Jan. 2011 - Dec. 2012*
  Mandegar Group, Tehran, Iran,
- Lecturer, *Sep. 2006 - Sep. 2009*
  Department of Statistics, Shahid Beheshti University, Tehran, Iran.
- Lecturer, *Sep. 2006 - Sep. 2009*
  Department of Statistics, Allameh University, Tehran, Iran.
- Lecturer, *Sep. 2006 - Sep. 2009*
  Department of Statistics, International Imam Khomeini University, Qazvin, Iran.
- Statistical Consultant, *Sep. 2007 - Sep. 2008*
  Pangan Avaran, Tehran, Iran,
- Lecturer, *Sep. 2002 - Sep. 2003*
  Department of Statistics, Razi University, Kermanshah, Iran.

6 OTHER CONTRIBUTIONS

6.1 Scholarly Activities

a) Reviewed manuscripts for the following journals or conferences:

- The 2017 IEEE Congress on Evolutionary Computation (IEEE CEC 2017)
- Journal of American Statistical Association (JASA)
- Biometrics - A Journal of the International Biometric Society
- Statistical Methods in Medical Research
- The Journal of Stochastic Environmental Research & Risk Assessment
- Statistics, Optimization & Information Computing
- Journal of Statistical Research of Iran (JSRI)

b) Conference

- Organizer Member: R users Quebec 2018, July 2018, Montreal
- PC Member: IEEE World Congress on Computational Intelligence; 25-29 July 2016, Vancouver

c) Workshops

- *Repeated Measures ANOVA Using SAS.* Razi University, Iran (Organizer, Lecturer) *2002*
- *Statistical inference using SPSS.* Razi University, Kermanshah, Iran (Organizer, Lecturer) *2002*

- *Mastering Excel.* Shahid Beheshti University, Tehran, Iran (Lecturer) *2009*

6.2 Membership

- The Statistical Society of Canada *Since 2013*
- The American Statistical Association *Since 2013*
- The Iranian Statistical Society *Since 2001*

7 TECHNICAL STRENGTHS

7.1 Technical Skills

Programming Language:	C++, SAS, R, S-Plus, Mathematica, Matlab
Statistical Software:	JMP, Minitab, Statistica, SPSS, Statgraphics, Stata
Databases:	MySQL, Access
OS and Software:	MacOS, Linux, Windows, LaTeX, iWork, MS Office, ArcGis.

7.2 Language proficiency

Persian: Native *English:* Fluent *Arabic:* Fluent