

FAIZAN KHALID MOHSIN

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EDUCATION

University of Toronto

Expected Graduation: Jun 2019

Master of Science in Biostatistics, Dalla Lana School of Public Health

University of Toronto

Degree awarded: June 2016

Honors Bachelor of Science: GPA of 3.83 in the last two years

Specialization in Statistics & Specialization in Mathematics and its Applications (Statistics/Probability)

RESEARCH EXPERIENCE

Dr. Lisa Strug Lab, The Hospital for Sick Children

Oct 2018 – present

Practicum Student

- Performing genome-wide association study for Cystic Fibrosis, correlating the genetic variants of interest with every possible phenotype measured to characterize the clinical impact across the body system of these genes.
- Performing multiple logistic and linear regression, principal component analysis and exploratory data analysis on 500,000 individuals from the **UKBiobank**.

Statistical Consulting

Feb 2018 – present

Lead Statistician

- Performing survival analysis on ICES data, with over 51,000 patients.
- Modeling cancer incidences of Ontarians over the age of 66 years, using Cox proportional-hazards model with time-dependent covariates.

Statistical Research in Cancer Reported Outcomes

June 2016 – Feb 2017

Lead Statistical Researcher, WE-Can program, ELLICSR, Toronto General Hospital

- Compared self-reported patient fitness outcomes to actual fitness measures, to assess if patient reported improvements were reflected in improvements in the actual fitness measures.
- Conducted sensitivity to change analysis on the outcomes using R to identify the most responsive ones to reduce the burden of measurement on patients.

Statistical Research in Missing Data, University of Toronto,

March 2016 – May 2016

Lead Researcher

- Compared the performance of different missing data methods by simulating data as well as different types of missingness and using Mixed Effects Models to fit the data in R.
- Found that under certain conditions, Complete Case Analysis performs as well as Multiple Imputation.

Statistical Research in Cancer Patients Study, University of Toronto,

Sept 2015 – March 2016

Lead Researcher, Joint Collaborative project with the Statistics and Kinesiology Department of U of T

- Analyzed the effects of the Wellspring Cancer-Exercise Program on cancer fatigue to improve the quality of life of over 200 cancer patients who participated in the program.
- Developed methodologies for data analysis, and assessed the impact and feasibility of the program.
- Used visualization techniques and summarized the results of Mixed Effects Models, GEE and missing data methods in R, for the final report and the hour long final presentation to the collaborator.

- Statistical Research in Environmental Data**, University of Toronto Sept 2014 – May 2015
Lead Researcher, Joint Collaborative research project with the Statistics and Ecology Department of U of T
- Population Modeling: Researching Lake Trout and Walleye population growth curves (length-at-age data) by using a recently developed Biphasic Growth Model and performing linear and non-linear Regression in R.
 - Developed methods for predicting the age of maturity of fish populations using the Biphasic Growth Model for the goal of sustainable fishing of lake trout and walleye populations.

- Physics Research**, University of Toronto Sept 2012 – March 2013
Undergraduate Researcher, Professor Al-Amin Dhirani's Group, Chemistry Department
- Created self-assembling gold nanoparticles in Professor Dhirani's lab, conducted optical experiments and compiled the results
 - Analyzed the data using RefFit (software to model optical spectra) with another undergraduate student to determine the optical properties of the self-assembling gold nanoparticles.

SELECT WORK EXPERIENCE

- Cube Statistica, Business and Statistical Consulting** June 2016 - present
Founder/CEO
- Completed over 20 business and statistical consulting projects.
 - Performing business consulting for companies by identifying key actions and opportunities and developing solutions and strategies for increasing growth and sales.

- Advantage International Group** March 2018 – present
Market Development Analyst
- Performing predictive modeling and machine learning algorithms in R to analyze market data.
 - Automated the data analysis process, reducing delivery time of each dataset from a day to 20 minutes.
 - Performing text mining and sentiment analysis on verbatim data from follow-up phone call interviews.

AWARDS & HONOURS

- Best Undergraduate Research Presentation Award**, May 2016
Annual Statistical Society of Canada Student Conference, "Comparing different missing data methods"

- University College Special In-Course Scholarship**, University of Toronto April 2014
Received for high academic performance for the 2013-2014 academic year

- Scholarship**, Marsan College, Montreal, QC Jan – Feb 2007
Program: Adobe Photoshop & Photography
Won first prize in a photography contest on the theme of *Nature & the City*

FORCASTING COMPETITIONS

- Team Leader, Won the Case Study in Data Analysis Competition** May 2016
Statistical Society of Canada Annual Conference, "What Predicts Sustainability of Canadian Charities?"
- Used Machine Learning Methods for feature selection and classification to predict if charities succeeded or went bankrupt using the tax return data, provided by the CRA, of all over 23,000 Canadian charities.
 - Used an innovative clustering method to group the successful charities into different segmentations.
 - As team leader presented our research to over 20 people as well as 4 judges at the conference.

- Team Member**, Case Study in Data Analysis Competition May 2016
 Statistical Society of Canada Annual Conference, “*Can Google Flu Trends Predict the Frequency and Results of Tests for Influenza and Other Respiratory Illnesses?*”
- A seasonal ARIMA model with Google Flu Trends was used to model and predict time series trends.
 - We were able to predict flu peaks 2 weeks in advance using our model.

PRESENTATIONS & INDUSTRY WORKSHOPS

Industrial Problem Solving Workshop (IPSW), 15 – 19 Aug 2016
 The Fields Institute for Research in Mathematical Sciences, Toronto, ON
 Selected to participate at the IPSW where graduate students solve complex problems arising from industry

Participant of PIMS Graduate Mathematical Modeling in Industry Workshop, 7 – 14 Aug 2016
 University of British Columbia, Vancouver, BC
 One of few undergraduate students to be chosen to participate at the PIMS GMMI Workshop, where graduate students work on real problems faced by Industry

Southern Ontario Graduate Mathematics and Statistics Conference 13 – 14 June 2016
 Guelph University, Guelph, ON
 Faizan Khalid Mohsin, Jasmine Nguyen, Hongyang Hu, Nathan Taback, “Comparing performance of different Imputation Methods”

Annual Statistical Society of Canada Student Conference 28 May 2016
 Brock University, St. Catherine, ON
 Faizan Khalid Mohsin, Jasmine Nguyen, Hongyang Hu, Nathan Taback, “Comparing performance of different Imputation Methods”

LEADERSHIP EXPERIENCE

Member of the Sciences Curriculum Committee (Elected Position) Sept 2015 – May 2016
 Faculty of Arts & Science, University of Toronto

- Reviewed and recommended proposals for over 10 new undergraduate courses and 2 new programs as well as existing ones.
- Monitored the content, quality, and requirements of the science programs and individual courses offered by the Sciences Faculties.

Vice President, Statistical Sciences Association of Students (formerly UT-Stats Club) 2013 – 2014
 Department of Statistical Sciences, University of Toronto

- Head of all internal affairs of the club such as finance, public relations and club events.
- Wrote the new constitution of the club, and planned and approved the annual budget.
- Organized several successful events such as the Statistical Programming Competition, SAS and R crash courses, Graduate School Information Session, and the Annual End of Year Gala.

Friends of Literacy and Mass Education (FLAME) Karachi, Pakistan
Assistant Accountant and Secretary of the CEO June – Aug 2012

- FLAME is an NGO that establishes small schools in impoverished areas of Karachi and provides basic healthcare to students, with over 60% enrollment of girls.
- Assisted in maintaining the accounts and bonus sheets of the 160 teachers for internal records.
- Wrote quarterly reports of the 140 FLAME schools to record progress and obtain further donations.

ADDITIONAL SKILLS

Computer: R, Linux, SAS, Python, SPSS, Tableau, SimplyAnalytics, Minitab and Photoshop
 Languages: Fluent in English, French and Urdu