Application for Tenure-Track Instructor Position in Statistics at UBC

Vincenzo Coia

2019-12-09

Contents

Chapter 1

Cover Letter

NOTE: THIS APPLICATION IS A WORK-IN-PROGRESS

Dear members of the search committee,

I am writing to enthusiastically apply for a tenure-track instructor position in Statistics (Job #35876). Ever since joining the department of Statistics full time in early 2017 to advance our Data Science initiatives, I've come to realize just how ideal of a fit the educational leadership stream is for me. My aim with this application is to indicate why this is so, as well as why the department and UBC (and external to UBC!) would benefit by promoting me to the educational leadership stream.

Ultimately, in this position, I envision advancing all branches of Data Science education at UBC, especially through Statistics for Data Science. I'm equally excited to develop the new Minor in Data Science program as I am to continue developing the Master of Data Science (MDS) program. In fact, I'm actually rather torn between the two: there is still much to develop with MDS, and I'm rather invested in the program; but the allure of developing a new Minor program is a new equally exciting challenge that I can make valuable contributions to. Regardless of my level of involvement in these, I intend to keep an open stream of communication between the two programs, along with STAT 545A/547M, so that data science education at UBC can overall grow as a cohesive whole, as opposed to competing pieces.

My vision for doing this

I've identified four pillars of my career, which I hope will lay the foundation for my vision going forward in the teaching stream, as well as convey fit on my end. They are, in order of culmination:

1. **Application**: addressing real problems with data science.

2. **Research**: discovering better ways to do data science.

3. **Development**: turning new research into programs and tools, which are ideally accessible to the public.

4. **Teaching**: spreading data literacy and enthusiasm to the public.

Lastly, I'd like to elaborate on how my skills will be an asset to the department.

Excitement and promise for starting up the minor program, helping MDS and STAT 545A/547M evolve along with it.

hyperlinks to one or two examples of my teaching materials. Note that I don't see any of these as being "finished", but rather a work-in-progress.

- For STAT 545A/547M (Exploratory Data Analysis), I made the lecture notes and course website. Less relevant are Lectures 11+, taught by Dr. Firas Moosvi, and Lecture 6, a guest lecture taught by my TA, Victor Yuan.
- For DSCI 551 (Probability for Data Science), I wrote the lecture notes by using Dr. Mike Gelbart's notes from the previous year as scaffolding.
- I'm writing an open-source book on regression analysis for data science, called Interpreting Regression. It's in its early stages.

What I'm comfortable teaching (useful in parallel to the minor program in DS)

Tools; my comfort level with CS. Although I don't have formal training in CS outside of perhaps a few undergraduate courses, my approach to learning these things is to identify tools and techniques that would be useful, and commit to building these tools. I prefer this approach over prescribed training such as online courses, because I find it more genuine as I encounter concepts as they become relevant. For example, I've been learning web hosting as I've been learning about Hugo, blogdown, and netlify to create websites like my homepage, course websites like STAT 545A/547M, and hosting "books" such as Interpreting Regression online. I've learned shell scripting back in my PhD, and continue to learn more, as I embrace GNU Make and workflow automation in general.

Teaching tools and methods

the names of three references who have been asked to send reference letters:

1. Dr. Tiffany Timbers (current supervisor)
2. Dr. Michael Gelbart (current supervisor)
3. Dr. Harry Joe (PhD supervisor)

I am eager to begin the position on the indicated July 1, 2020 start date, but am ultimately flexible.

Enthusiastically yours,

Dr. Vincenzo Coia

Chapter 2

Curriculum Vitae

2.1 Work Experience

2017/01 - present
Lecturer of Data Science
(Initially: Postdoctoral Teaching and Learning Fellow)
Masters of Data Science Program, and the Department of Statistics
The University of British Columbia
Vancouver, BC

2009/05 - 2014/05
Short-term statistical consulting (6 projects)
UBC and private

2.2 Education

PhD in Statistics
2012/09 - 2017/02
The University of British Columbia
Conferred May 29, 2017

MSc in Mathematics and Statistics (Statistics)
2011/09 - 2012/08
Brock University
Conferred on October 13, 2012

BSc (3-year) in Biological Sciences
Minor in Earth Sciences
2005/09 - 2011/04

Brock University
Conferred "With Distinction" on October 22, 2011

BSc (Honours) Mathematics Integrated with Computers and Applications
Concentration in Statistics
2005/09 - 2011/04
Brock University
Conferred "With First-Class Standing" on June 7, 2011

2.2.1   Volunteer Positions

2016/09 - 2016/02
Science World at TELUS World of Science
Vancouver, BC
78.15 hours

2013/10 - 2014/05
Beaty Biodiversity Museum: Events Volunteer
Vancouver, BC
35.0 hours

2013/04 - 2013/09
UBC Farm
Vancouver, BC
102.5 hours

2011/06 - 2011/08
Project S.H.A.R.E. community garden
Niagara Falls, ON
15.0 hours

2.2.2   Research Assistantships

2013/05 - 2013/08
Robust penalized regression
Supervisor: Dr. Gabriela Cohen-Freue
Department of Statistics
The University of British Columbia
Vancouver, BC

2012/05 - 2012/08
2011/05 - 2011/08
2010/05 - 2010/08
Extreme value modelling
Supervisor: Dr. Mei Ling Huang

Department of Mathematics
Brock University
St. Catharines, ON

2010/09 - 2011/06
Quantum monte carlo simulations
Supervisors: Dr. Stuart Rothstein; Dr. Wai Kong (John) Yuen
Department of Chemistry and Department of Mathematics
Brock University
St. Catharines, ON

2.2.3 Teaching Assistantships

Duration: From the latter part of my undergrad, to the end of my PhD.

UBC:

- **SCIE 300: Communicating Science** (5x)

Brock University:

- **MATH 4P82/5P82: Non-parametric Statistics**
- **MATH 3P82: Regression Analysis**
- **MATH 4P81/5P81: Sampling Theory**
- **MATH 3P81: Experimental Design** (2x)
- **MATH 2F40: Mathematics Integrated w/ Computers and Applications II**

2.3 Publications and Talks

2.3.1 Articles Submitted to Refereed Journals

- Huang, M.L., Coia, V., and Brill, P.H. (2013) A cluster truncated Pareto distribution and its applications. ISRN Probability and Statistics 2013: Article ID 265373.

- Ayad, M., Coia, V., and Kihel, O. (2014) The number of relatively prime subsets of a finite union of sets of consecutive integers. Journal of Integer Sequences 17: Article 14.3.7

- Coia, V., and Huang, M.L. (2014) A sieve model for extreme values. Journal of Statistical Computation and Simulation. 84(8):16921710.

2.3.2   Articles Submitted to Conference Proceedings

- Huang, M. L., Coia, V., and Brill, P.H., A mixture truncated Pareto distribution, In JSM Proceedings 2012, Statistical Computing Section, Alexandria, VA: American Statistical Association, pp.

24882498.

2.3.3   Conference and Roundtable Contributions

- Coia, V., Nolde, N., and Joe, H. Forecasting Extremes for Flooding (Invited Talk). The 44th Annual Meeting of the Statistical Society of Canada. May 29June 1, 2016 at Brock University, St. Catharines, ON.

- Coia, V., and Jeanniard du Dot, T. (Invited Demonstration) "Using the Grammar of Graphics and Interactivity to explore Biologging Data in R". May 6, 2015. Building a Bioanalytical Theory for Analysis of Marine Mammal Movements: A Peter Wall International Research Roundtable. The University of British Columbia, Vancouver, BC.

- Coia, V. "Flood Warning: An Application of High-Quantile Regression" (Contributed Talk). SFU/UBC Joint Graduate Student Seminar (Winter). February 28, 2015 at the SFU Harbour Centre, Vancouver, BC.

- Coia, V. "A New Sieve Model for Extreme Values" (Contributed Talk). SFU/UBC Joint Graduate Student Seminar (Fall). September 29, 2012 at the SFU Harbour Centre, Vancouver, BC.

- Coia, V., and Huang, M.L. "On Estimation of Heavy Tailed Distributions" (Contributed Talk). The 40th Annual Meeting of the Statistical Society of Canada. June 36, 2012 at the University of Guelph, Guelph, ON.

- Huang, M.L., Coia, V., and Brill, P.H. "A Mixture Truncated Pareto Distribution" (Contributed Talk). The 2012 Joint Statistical Meetings. July 28August 2, 2012 at San Diego, California

2.4   Awards

2.4.1   University Issued

- 2012/09 - 2016/08: Four-Year Fellowship
- 2012/09 - 2016/08: Faculty of Science Graduate Award
- 2011/09: Dean of Graduate Studies Excellence Scholarship
- 2011/06/07: Dean's Gold Medal
- 2011/06/07: Distinguished Undergraduate Student Award in Mathematics
- 2011/03: President's Surgite Award

2.4.2 Nationally Recognized

- 2013/06: Governor General of Canada's Gold Medal
- 2012/09 - 2015/08: NSERC Postgraduate Award (Doctoral, 3-year)
- 2011/09 - 2012/08: NSERC Alexander Graham Bell Canada Graduate Scholarship (Masters)
- 2010/05 - 2010/08: NSERC Undergraduate Student Research Award

2.4.3 Individual Donors

- 2012/04: Dr. Jack Lightstone & Dorothy Markiewicz Scholarship
- 2012/04: Dr. Raymond & Mrs. Sachi Moriyama Grad. Fellowship
- 2012/03: Tomlinson Entrance Scholarship for Excellence in Mathematics and Science
- 2011/06: John and Roslyn Reed Book Prize
- 2010/09: Art Bicknell Scholarship in Mathematics
- 2010/09: Ian D. Beddis Family Scholarship
- 2010/09: Terry and Sue White Mathematics and Science Scholarship
- 2007/09: M.J. ("Mel") Farquharson Scholarship
- 2006/09: Scholler Foundation Scholarship in Chemistry

2.4.4 Athletic Awards

- 2016/04/03: Sportsmanship Award, UBC Thunderbirds Sport Clubs (Fencing)
- 2016/02/28: Bronze Medal in Senior Mixed Epee (Intercollegiate Tournament, UBC)
- 2015/11/16: Bronze Medal in Senior Mixed Epee (Remembrance Day Tournament, UBC)
- 2012/03/28: RM Davis Surgite Award
- 2009/12/12: First Place Award Winter Epeedemic, Toronto Fencing Club
- 2009/03: Varsity Fencing Rookie of the Year Award

2.4.5 Declined Awards

- 2012/04: Ontario Graduate Scholarship (Doctoral)
- 2011/05: Ontario Graduate Scholarship (Masters)

2.5 Professional Activities

Dept. of Statistics, The University of British Columbia:

- 2016/05 - 2016/06: **Search committee member (for CRC 2 faculty position)**
- 2015/04/30: **Organizer of the "How to Write an Awesome Abstract" workshop**
- 2014/06 - 2015/05: **Organizer of the SFU/UBC Joint Seminar**
- 2014/06 - 2014/09: **Organizer of the Graduate Student Trip**
- 2014/04 - 2015/05: **Co-founder of the Graduate Writing Forums**
- 2013/06 - 2014/05: **Statistics Graduate Student Representative**

Chapter 3

Statement of vision for education in statistics and data science

3.1 Vision

To me, innovation in the teaching of data science and statistics for data science involves:

- improving the delivery of a data science curriculum
- improving the evaluation of students
- redesigning the map of statistics from the perspective of data science to provide a framework for solving real-world problems
  - Interpreting Regression book (**EL**)
- bringing to life underutilized tools and techniques.
  - distributional forecasting
  - coperate for copulas:
  - copulas
  - extreme value modelling
- focussing on relevant real-world problems.
- defining data science and maintaining a vision for our organizations (minor program; MDS; STAT 545A/547M, etc)
- designing curricula for responsible use of data science.

There is a lot of research out there that's relevant for the effective teaching of data science. Resources like Greg Wilson's "Teaching Tech Together" or UBC's Instructional Skills Workshop provide a wealth of tools and techniques to be more effective. I'm all about keeping in touch with this community, and

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engaging in conversation and the sharing of ideas to help make strides in this area.

There seems to be ample attention placed on delivery and student evaluation by educational leaders. Where I intend to make my biggest mark is in figuring out how to apply Statistics to real-world problems. Statistical Science (importantly) is generally about setting up a framework of stochastic assumptions, and describing properties and methods under this framework. An example of a framework is linear regression; another, a Markov model. But the reality is that real examples don't neatly satisfy assumptions. Instead, some assumptions are better *approximations* than others, yet others have different *uses* than others. Thinking about assumptions in this respect brings about questions and ways of thinking that have traditionally not been adequately addressed in the literature nor the classroom, yet are defining for Statistics for Data Science – hence why I think of this as "research". I call this approach a "problem-first" approach, as opposed to a "method-first" approach taken by Statistical Science. Even Applied Statistics may seem to take a "problem-first" approach, but the motivating real-world problem tends to be used as motivation for setting up a framework of assumptions, for which properties are then described.

I've been developing this way of thinking with MDS, but am nowhere near complete. I wish to continue this approach throughout my career.

Another area I intend to make my biggest contribution is on bringing to life underutilized tools and techniques that have already been described by statisticians. Specifically, I find that there is a lack of attention to the use of distributions in data science, perhaps stemming from their misunderstanding (for example, parametric functions "needed" as assumptions). There is a wealth of value that using both parametric and non-parametric distributions can bring to data science. To this extent, I am developing an R package that works with distributions as objects, as opposed to handling the unwieldly pieces of functions like `dnorm()` and `rnbinom()`. My goal is to submit this package to CRAN and ROpenSci, and perhaps grab the attention of RStudio and the `tidymodels` team. By extension, another area of statistics that I believe are underappreciated are copulas. Once distributional forecasting is truly appreciated, then copulas become invaluable for parametric modelling for prediction, as well as providing new insight into the properties of data. Extreme value theory also becomes invaluable for those cases that have heavy tailed data, such as at least one capstone project from Seahorse strategies (the team didn't end up using EVT because of lack of attention here, but should have), as well as organizations tackling the issue of flood forecasting and flood frequency assessments. I believe that copulas are currently not accessible enough due to complicated formulas and jargon, yet are tremendously useful for distributional forecasting. I hope to make this framework more accessible by developing an R package called `coperate` and `cmc` for easy manipulation of copulas, and easily created copula-based models (respectively). Again, submitted to CRAN and ROpenSci. Extreme value models will be easy to build using the distplyr package I mentioned

earlier by easily grafting distributional tails with `distplyr::right_connect()` and `distplyr::left_connect()`.

This means continuing to work with external partners, such as the Master of Data Science (MDS) capstone partners, to understand their pressing data issues, and lend a hand once in a while. This is important for keeping myself and data science education at UBC relevant, as well as continually expanding my skillset. Besides having mentored MDS capstone projects for the past three years, I also did some work on flood forecasting with BGC Engineering this past summer.

Other ways I currently stay in touch with the data science community is through Twitter, the data science community at UBC (especially MDS's Slack channel), newsletters such as ROpenSci and RStudio, as well as just plain looking for solutions to a new problem, or new solutions to an old problem.

Examples of why "Interpreting Regression" is necessary:

- Survival analysis resources focus on the how of the Proportional hazards or Accelerated Failure models, or the survival curve estimation. First of all, with a lack of attention placed on the value and interpretation of distributions, survival curves and hazard functions are right off the bat a confusing introduction. Then, why we would even bother estimating such a thing, or setting up such a model, are not discussed. Also, the relationship between the Kaplan-Meier survival curve and the survival regression models is not clear. It's also not clear how one would apply machine learning methods with censored data. Again – the framework has been set up (assumptions laid out for PH model or AF model), and properties described of these models (beta's are log hazard ratio), but this leaves students thinking "I guess this is just what we do when faced with censored data", as opposed to the more creative approach of making decisions on the modular components of modelling.
- The teaching of MLE focusses on the how, and even then, it's hard to find a good resource on the how. But, after ample searching, I've yet to find the why of MLE, and this is because it's not framed in terms of deciding which assumptions to enforce in your model.
- multiple imputation for missing data as plugging in a distribution to get marginal quantities. Without this being explained, students are left thinking "I guess we should just use multiple imputation when faced with missing data, because that's just what we do".

Envisioned impact outside the walls of the classroom by the time I become a Professor of Teaching: (EL)

- Hosting an annual "Education in Data Science" workshop/conference (we are already in the early stages of this).
- Developing R packages with colleagues that make concepts easier to grasp:
  - distplyr for distributions: distributions as S3 objects in R, which can be manipulated and easily visualized.
  - coperate for easily understanding and handling copulas.

- Writing public resources:
  - Book "Interpreting Regression" for reframing statistics for data science.
  - Possibly another book, on distributional forecasting.
  - Vignettes and journal articles about the use of said R packages.
  - Course materials made public.
  - Data science "cheat sheets", especially when it comes to a guide for making decision about model assumptions.

Problem-first organization. I believe in quality over quantity, and this is especially important for a program as time-sensitive as the Master of Data Science program at UBC that I currently teach in. Here, I focus on fundamental concepts, asking the question "what must the students absolutely know by the end of this course?" To help answer this, I look to fundamental concepts *as they relate to applications*, not necessarily how they are developed in academia. I stick to these core concepts, and show students just how far they can go by exploring deeper concepts and data science methods – again, going back to motivation over knowledge transfer. - [ ] problem-first approach when teaching data science - [ ] Bringing in examples from Capstone for motivation - Capstone. I believe that teaching is far less effective when done "in a vacuum", as opposed to collaboratively with the input and feedback from peers. I'm lucky to be involved with open and communicative colleagues who can share their input, to build world-class courses in data science. And I'm happy to be on the other end as well, providing input and feedback to my colleagues.

3.2   Skills and Evidence

- Existing examples:

  - Curriculum development of 551 throughout the years; 561 w/ Gaby and Sunny, later Tom; 531; 511?; 563; BAIT 509; 562; STAT 545A/547M.
  - Arrangement of (mostly) statistical concepts as they relate to data science on a whole-program level.

- Promise: distplyr?

- Promise: Promotion of distributional forecasting methods.

- Promise: Host conference

- teaching, mentorship and inspiration of colleagues: post-docs, Sunny, TA's for guest lecture.

- Making resources public: 551, 545A/547M (expanded from Jenny's work).

- Service to the academic profession, to the University, and to the community:

- – BGC project (important to stay relevant with pressing issues, and to bring industry experience to the program)
  - – MDS vision statement
  - – Blog post?
  - – ASDa workshops in 2017.

[ ] Sharing the teaching: I like to give my TA's the opportunity to deliver a guest lecture. I'll guide them beforehand, and have a "debrief" session, usually a walk outside (inspired from ISW).

Maintaining a vision for our organization / MDS

Chapter 4

statement of teaching and training philosophy

4.1 Teaching Philosophy

My philosophy on teaching can best be broken down into four categories: **appropriate structure**, **responsive teaching**, **motivation**, and **self-improvement**.

4.1.1 Appropriate Structure

You and I don't really know English. We only know enough for it to be a sufficiently useful tool for our own daily activities. I take this concept to heart as I design and deliver my courses. It's fallacious to design a course around *topics*, but rather on building *skills* for a certain purpose. To me, these skills formulated as a list of **learning objectives** (LO's) act as a "true north" that all components of a course point towards, and are the most important structure to the course. For example, course content on the topic "heteroskedasticity" could be developed in many directions. The students, thinking they have to "know heteroskedasticity", get stuck studying its never-ending scope. Instead, a learning objective such as "modify a linear model to appropriately incorporate heteroskedasticity based on data diagnostics" provides direction for the teaching team to create material, and clarity for the students. For concrete examples, take a look at the DSCI 551 notes, or my other course materials.

Clarity about the course structure and expectations is important for equipping students with a map of what they need to do to succeed. In addition to discussing how students should use the LO's, describing the summative assessments and a course syllabus is also important, as well as making it easy to navigate

course material (see, for example, the STAT 545A/547M syllabus website). Informing the students of any changes or of any mistakes, no matter how painful, is also critical for maintaining clarity.

4.1.2   Responsive teaching

Too much structure can stymie a course. This is because, while preparing course material, the instructor is not truly equipped with the clarity of how to most appropriately deliver material until the material has been delivered. For example, a question for the class might have seemed insightful when it was being prepared, but maybe during class the question doesn't end up being insightful. Or, maybe the lecture delivery time was underestimated. The answer to addressing this issue is responsive teaching.

Responsive teaching to me is about staying in touch with the class to get a feel for areas that need more or less attention. For example, it means: taking a break when the energy of the class is low; responding to class confusion by explaining something in a different way on the whiteboard; or spending more or less time on something after realizing its importance mid-class. In this way, teaching is more akin to improv comedy, where actors must respond to random cues from the audience (I've taken lessons). I believe in embracing a mindset of letting go and trusting in yourself to respond appropriately the moment things go off course, and to also be humble and admit when you don't know something. This type of spontaneity sometimes also requires realizing and appropriately acting on your agency in adapting a course on the fly. Understanding that a course is flexible allows you to be nimble during contact hours with students, as opposed to feeling stuck in delivering the course exactly as it was originally laid out. However, it's important to be strategic when making changes so that things remain orderly and as seemless as possible for the students, and to be clear about any changes made. I like using the start of class to check in and return to a roadmap of the course so that everyone remains on board a moving bus.

Contact time with students is critical for adapting my teaching to the students, and provides tremendous value for students to actually enrol in a program as opposed to taking an online course. Perhaps the most effective method for doing this is making a point to engage with each student in lab. Equally as powerful are discussion-style office hours. I no longer hold my office hours in my office, because the office hour model whereby students just drop by to ask a question is just not effective. There ends up being a queue of students, usually asking common questions, and these students feel pressured to leave the office so that others can get a turn. Instead, I hold my office hours in a lab-like room suitable for collaboration. I end up leading a whole-group discussion prompted by student questions. This gives me even more insight as to how things are going in class, and allows me the opportunity to modify the course moving forward or make clarifications.

Some other methods for connecting with the students are:

- being present on the course Slack channel (and sometimes even other course channels) to provide more insight,
- sending out a 1-minute long early survey about how the course is going,
- taking the time to talk to students who approach me during the mid-class break or after class,
- pausing to ask questions and check for insight in the classroom,
- applying active learning strategies such as think-pair-share or live coding, and
- checking in to see how things are going at the start of each class, by asking questions like "how are we feeling about the quiz coming up next week", or "how are we feeling this week".

4.1.3   Motivation

Neither structure nor responsive teaching will suffice if the students don't know the reason for discussing the course material.

I take to heart what I learned from Greg Wilson, that teaching is much more about motivating students than it is knowledge transfer. Students have access to any information they want through the internet, but a classroom environment has the powerful advantage of the presence of peers and an engaging instructor. On the teaching front, this means being enthusiastic, and focussing on why they should care about the things I talk about. It also means being aware of the lengthy (usually 80-minute) time frame that students are present for (and that's just for one class), by taking a break mid-class, returning to the big-picture, and providing additional instructions for exercises for people who may have "fallen off the bus". I'm pleased that I regularly receive ample praise on my instructor evaluations, and I encourage you to take a look.

4.1.4   Self-Improvement

What's better than effective teaching? Teaching that continually becomes more effective.

Community engagement is one method to become a better teacher. This means keeping an open dialogue and sharing experiences with other teachers, especially my colleagues. Aside from simple acts like sharing ideas and experiences through Slack and gatherings, I'm proud that my team gives and receives formative feedback on our teaching by visiting each others' lectures.

An after-action review is another effective method, involving capturing the insight you gain after teaching. There are three ways I engage in an after-action review. First, I capture regular insight throughout the delivery of the course as GitHub Issues, so that the insight can easily be referred to in the future and by

any of my colleagues. Secondly, I find keeping a teaching journal that's not tied to a specific course is useful for becoming a better teacher in general – and it's even easier now that my team has our lectures recorded. Thirdly, my colleagues and I engage in a "retreat" at the end of each term, to discuss our insight on our courses and the MDS program as a whole.

Realizing one's own struggles is also critical for self-improvement. For now, one thing I struggle with are student names. I feel embarrassed to use names because I'm sure to make mistakes, but calling students by their name is important because it shows that the instructor cares. I already review class lists, but have been stepping outside of my comfort zone by no longer avoiding using names. Another thing I struggle with is writing in an orderly fashion on the whiteboard. I use the whiteboard for spontaneity / responsive teaching, which means I don't know how I'll ultimately be using the board throughout the class. I end up running out of space, and end up using the board in a non-linear fashion, which can sometimes be confusing. For now, I intend to remain mindful of this and keep practicing.

4.2   Training Philosophy

- Respecting people's time: giving subordinates the option of meeting electronically if they choose.
- Making clear everyone's role in a team project (example: 561 project, capstone projects)
- and getting a sense of the amount of time/involvement each person will be contributing.
- Delegation levels, and being open to letting go (sometimes it's difficult because we want to take ownership)
    - Also, I believe that we don't delegate enough. As a result, we end up sacrificing valuable time where instead we could be really moving the needle in our program.
- Staying mindful of the potential of subconscious discrimination coming about by showing preference of some team members over others, whether it be race, gender, personality, skillset, etc. This means being deliberate about where I spend my attention.
- Feedback: taking the time to provide feedback for one's work. I believe this shows respect for the other person, that they are worth my time, and provides an impetus for them to improve. Example: 561 labs 3 and 4 with Tom; detailed feedback on pieces of writing submitted by students (capstone).
- I try to be genuine so that they can see that I'm also a human that makes mistakes and has gaps in my skillset, and lead a regular life outside of UBC. I think this also helps develop a stream of open communication for questions, concerns, and how things are going. Creating a culture that's

safe for dissent, because my subordinates have skills, knowledge, and a viewpoint that I don't have, and from which I can learn from them.

- One thing I need to improve upon for this coming capstone, as reflected in my evaluations, is to be more mindful of group dynamics. Even if things between me and each team member/student are fine, relationships between other team members/students might not be. This year, I'll be meeting with each student individually to see how things are going.

Chapter 5

Diversity Statement

To me, people deserve the same respect regardless of their identity. Any differential treatment is discrimination, and is problematic because it leaves people feeling disrespected, or worse, puts an impediment on one's life.

Our society has made some great progress on inclusivity (the opposite of discrimination). Racial and sexual discrimination are significantly less these days compared to several decades ago. But the battle is still not over, as is evidenced by graffitied rainbow sidewalks and defaced mosques.

Some discrimination is still rife. Gender discrimination is one such example, which is now starting to see some progress. But there are still other types of discrimination that are not yet well known. One such example that I feel is happening is discrimination against fathers.

Not only is it healthy for each individual to receive respectful and equal treatment, we have so much to gain by having a diverse group of people around us. There's strength in diversity.

The problem goes deeper and more elusive with the well-intentioned people who still discriminate unintentionally:

The problem does not necessarily lie with a discriminative response from an individual, if the response was unintentional. Despite the best of intentions, it's our environment and society that is responsible for crafting an automatic response from an individual. So, a good-intentioned individual that does a double-take after seeing me and my male partner holding hands should not beat themselves up over it – it just means that the cumulative effect of their environment over time crafted such a response.

In the classroom, ensuring students all feel welcome, and feel that they can come talk to me, or participate in class. Fairness. Being mindful about whether I may be paying less attention to certain groups, for example, on Slack. I

was once accused of spending less energy on non-native English speakers on Slack. Although it's hard for us to recognize unconscious discrimination, I'm not convinced their claim was true – but regardless, this experience taught me that I need to be more deliberate about how I respond to students. I like to think, "how would I respond if this question or comment was made by someone else?". I think the usefulness of this litmus test extends beyond Slack to general interactions with students.

5.1   My experience with discrimination

As a member of the LGBTQ+ community, I continue to experience discrimination. Me and my male partner holding hands in public still forms a spectacle to many, some even stopping to watch us after we've walked by. Wedding vendors still referring to a "bride" when mentioning our wedding. Being invited to a wedding under the condition that my partner and I show no affection.

Things were worse in my adolescence, where homosexuality was "discouraged" in my environment, leaving me feeling socially out of place and fearful. Luckily, very few extended family members have a problem with my identity, and the rest embrace me.

Even though I'm a cis male, I'm quite passionate about gender issues, because they are largely not being embraced by our society, and because we're all affected by it (although transgendered and non-binary people are affected on an entirely different level).

To me, any type of brainwashing is deplorable, yet gender brainwashing is ubiquitous. You won't find a pink yoga mat in the men's section.

pink

Whistler bathroom

The solution to gender discrimination does not involve abolishing the notion of gender altogether, because gender has been proven to be important to humanity. Solution is about rather identifying a spectrum for which the extremes might be called "masculine" and "feminine".

Women's bathroom at 49th ||.

Fatherhood. Nice article on the bias: https://goodmenproject.com/families/ mom-bias-in-the-parenting-community-why-is-there-no-discussion-about-it-wcz/ Nice article on involved dads reaching similar levels of oxytocin with involved moms: https://www.nbcnews.com/sciencemain/your-brain-fatherhood-dads-experience-hormonal-chang which has one line that stands out when it comes to bias:

> Rilling said the study of the fatherhood effect is a "wide open frontier."

As you may know, my partner and I recently had a child through surrogacy. But, on the delivery day, the hospital was not prepared to handle a situation with two dads. It's important for the parents to form a bond with their child, and to help the surrogate avoid attachment issues with the child – but the (well-intentioned) hospital staff overlooked both of these aspects. We (the parents) were supposed to be brought in as soon as the baby was born, for initial skin-to-skin contact, but the hospital staff didn't bring us in until an hour after birth. Furthermore, they gave our surrogate first skin-to-skin contact – this promotes oxytocin in the surrogate, making it more difficult to part with the child, and denies the parents the opportunity for initial bonding. Worse, hospital staff kept referring to our surrogate as "mom", and referred to our son by her last name. Not only is this disrespectful for the parents, but it makes separation even more difficult for the surrogate.

In fact, there is an overarching issue of dads not being regarded as equally important figures as moms. Worse, this issue gets almost no attention. Moms are paraded as the caregivers, whereas dads are just there for support and don't deserve much say in parenthood. Just about anything to do with parenthood refers to mom – for example:

- we could not find a book about parenthood that does not emphasize mom's role;
- parenthood groups emphasize women over men, such as Facebook groups and community centers.
- marketing. Companies like 4Moms is akin to a business supply brand being called "4Businessmen".
- Even scientific research

Since this hasn't been socially recognized as an issue yet, in mentioning it, I risk sounding androcentric. This cannot be further from the truth. I recognize that women are far more marginalized than men are, and I fully embrace empowerment of women. Groups like R Ladies need support; I'm proud of the fact that we pay close attention to the amount of women we accept in the MDS program; and I'm no stranger to calling out

en though men are usually the priveledged

5.2   Contribution

To me, contributing to inclusivity is about creating an inclusive environment, especially when it comes to making course content; calling out discrimination, even when the discrimination is unintentional; and being a role model for others by being comfortable about who I am.

5.2.1   Creating an inclusive environment

Involves:

- Changing our language to be less presumptious. This means saying things such as "pregnant people" instead of "pregnant women", referring to one's "partner" instead of saying "wife" or "husband" (assuming a gender), not referring to someone by their race if not relevant (such as "I was talking to a Latino man the other day, …").
- Posting online content that suggest inclusivity. For example, not using data that indicates gender as binary (because it's naive and ultimately untrue, even if gender is paraded as "sex"), and not indicating female:male ratios and parading naive terms such as "gender balanced" (because that's naive too), but rather indicating percentage belonging to a minority group (such as "percent self-identifying as female").
- Removing spaces that discriminate by gender – this means a complete decoupling of bathrooms and gender (one should never have to say "I'm not allowed in this room because I'm a man/woman"). UBC needs to first take low-hanging fruit by abolishing gender from single-person bathrooms (like we have in the stats dept), then focus on root issues of multi-person bathrooms (which at first seem gender-related, but are actually not), such as an overall lack of privacy.
- Disassociating identities with career roles.
- Including a "covenant" or "code of conduct" in collaborative (and student) projects.

5.2.2   Calling out discrimination

Means pointing out when non-inclusive language or behaviour is used, whether intentionally or not. Critically, this should be done with compassion, as opposed to accusation, because (1) people may not know any better, and (2) even if they do know better, this language can accidentally slip due to many years of belonging to a less-inclusive environment. Calling out discrimination can help educate people of the first type, as well as help re-program people of the second type. Examples include:

- Someone telling someone else that they're in the "wrong bathroom".
- Example with MDS website, and bringing up issues in our academic meetings.

"Coming out" tells others that I'm proud of who I am, but also indicates sensitivity to issues of gender and sexual identity.

- Posting my preferred personal pronouns (he/him/his) and a rainbow emoji online.
- Posting a Positive Space sticker outside of my office.
- Contributing my LGBTSTEM interview.

As a result of this, I'm hoping that others can feel safer around me, and that I inspire others to have pride in who they are as well. I also hope that it brings awareness to those who are not familiar with LGBTQ+ issues – for example, the more someone sees preferred personal pronouns being specified, the more likely they are to look up why more and more people are posting this and what this means.

[ ] sensitivity to marginalized groups; embracing diversity.