THE UNIVERSITY OF UTAH
The Graduate School

Letter of Intent (LOI) to Establish a University of Utah Center, Institute, or Bureau (CIB)

Proposed Center, Institute, or Bureau Name: Utah Data Science Center

Classification/type of CIB: (check all that apply)

___ Research – conducting research as primary mission and receiving overhead return

X Multi-Mission and Interdisciplinary Research/Instructional/Training/Service – Some combination of research and training/instruction and/or service as mission

___ National Resource Center – Federal title connected to funding source(s)

___ Centers of Excellence – State or Federal designation tied to funding sources

___ Large State Designated standalone such as Huntsman Cancer Institute and UNI

___ Other (Research Only Center-not receiving overhead, Public Service Center, University Resource Center, Intra-department/School/College Resource Centers, Service Re-charge Center

Will the CIB receive federal or state research funds (Y/N) N

Is this CIB seeking provisional approval (approval for three years when funding or other criteria are pending)? (Y / N) N

Please provide a brief mission statement or statement of purpose for the proposed CIB:

To provide a central structure to coordinate, oversee, and organize data science researchers and resources at the University of Utah, and to establish and advance through research and applications the fundamental principles and practice of data science.

More specifically, this would be a **research** and **service**-focused center. The planned specific elements would be:
* Coordinating research among data science specialists, and providing a central location for other researchers to find the appropriate collaborator.
* Organizing outreach events to engage the university and broader Utah community (e.g., making the Utah Data Science Day an annual event).
* Overseeing students and industrial engagement in data science, centered on the new Data Science Club.
* Coordinating and facilitate research program in foundations in data science, starting with a joint seminar.

Please provide a description of the proposed CIB's organizational structure, including leadership, departmental, inter-departmental, or cross-college affiliations, and any external partners:

The center would have a single Director. There would be various Associate Directors in charge of tasks such as Outreach (overseeing Data Science Day etc), Research (organizing seminar, visitors, workshops), Student-Involvement (supervising the student-led Data Science Club).

Proposed initial core members are part of the School of Computing within the College of Engineering and the Mathematics Department in the College of Science. Some are also part of the SCI Institute. The center will also have Affiliated Members from a broad array of departments and colleges.

Please provide a list of funding sources and a plan for sustainability:

The proposed members have and/or currently oversee the student-led Data Science Club and the Utah Data Science Day. Through our shepherding, these events have found industrial sponsors (for instance for food at the club events), and have received some initial funding support from the School of Computing.

The proposed center would obtain funding through returned overhead or other sources from participating colleges and departments. This would facilitate the activities when no external sponsors can be found. However, the Center will continue to seek industrial support for engagement events. It would also use the additional funding sources to expand the extent of its mission.

THE UNIVERSITY OF UTAH
The Graduate School

Letter of Intent (LOI) Signature Form

The LOI to the cognizant Sr. Vice President (SVP) must be signed by all individuals who will be primarily associated with the CIB, as well as by others within the University who will be substantially impacted by its work (e.g. faculty/staff members, department chairs, academic deans, Associate Vice President for Research (AVPR) and/or other administrators.

Proposed CIB Director:	Jeff M. Phillips	Date:	2.27.2018
SoC Director:	Rose Whitaker	Date:	3/7/2018
CoE Dean:	Richard B Brown	Date:	3/7/2018
Mathematics Chair:	Davar Khoshnevisan	Date:	3/8/2018
SVP:	R Watkins	Date:	3-19-18

Proposed CIB Member: Alexander Lex Date: 02/28/2018

Proposed CIB Member: Vivek Srikumar Date: 02/28/2018

Proposed CIB Member: Aditya Bhaskara Date: 02/28/2018

Proposed CIB Member: Bei Wang Phillips Date: 02/28/2018

Proposed CIB Member: Braxton Osting Date: 02/28/2018

Proposed CIB Member: Shandian Zhe Date: 02/28/2018

Proposed CIB Member: SURESH VENKATASUBRAMANIAN Date: 3/1/18

Proposed CIB Member: Feifei Li Date: 3/2/18

Proposed CIB Member: Erin Horvath Date: 3/5/18

Proposed CIB Member: Thomas Fletcher Date: 3/6/2018

HEALTH
UNIVERSITY OF UTAH

Department of Biomedical Informatics
421 Wakara Way, Suite 140
Salt Lake City, UT 84108
801.581.4080
medicine.utah.edu/dmbi

April 12, 2018

To Whom This May Concern:

I am writing to provide my support for the creation of the Utah Center for Data Science, as proposed by Associate Professor Jeff Phillips, and 10 other faculty from the School of Computing and Department of Mathematics. Data science is a quickly growing area that is significantly impacting many areas including Biomedical Informatics. Hence, the timing is great to start such a center to help coalesce the research efforts on campus in this area. I am hopeful that the creation of this center will generate increased collaborations between faculty in my department and those in the center.

Moreover, the faculty proposing the center have been integral to many data science engagement activities on campus. In particular the Data Science Day held last year was a big success, and several students from my department attended and found the experience very rewarding. I feel confident that we will benefit from future iterations of this event, and other similar activities.

Please do not hesitate to contact me if there are questions or if further information is needed.

Sincerely,

Wendy Chapman, PhD
Professor & Chair
Department of Biomedical Informatics
University of Utah

Wendy.chapman@utah.edu

Richard B. Brown
Dean of Engineering
1692 Warnock Engineering Building
72 S. Central Campus Drive
Salt Lake City, Utah 84112
PH: (801) 585-7498 FAX: (801) 581-8692
brown@utah.edu
http://www.coe.utah.edu/~brown

April 13, 2016

To Whom it may concern:

I enthusiastically support the proposed Utah Center for Data Science. This effort is being led by SoC Associate Professor Jeff Phillips, and includes 10 other members across the School of Computing and Department of Mathematics.

Data Science is an area that has seen extreme growth in use and importance in the last decade, and Jeff and his fellow proposers have been the leaders on campus in building our capabilities in this area. Their research has developed new techniques for analyzing and managing large complex data, and also explaining why these techniques work. As a group, they have also been examples of interdisciplinary collaboration with data domain experts across the sciences, health care, psychology, and other disciplines within engineering. Indeed, a number of the most prominent faculty who use data science for engineering tasks are also Affiliate members of the center.

The faculty of the proposed center have also shown leadership in organizing engagement and outreach events on campus to show the reach of data science not just among themselves, but around campus and the greater Utah community. This includes, notably, the highly successful Data Science Day in January 2017. They are planning to host another data science day in September 2018, and I expect it will be an even bigger success. The Data Science Club they helped create in the last year has provided opportunities for students across all parts of data science to directly engage with the local industry; they have done so by bringing in data scientists from about 10 local companies in the to talk directly to the students.

As a sign of my support for these efforts, I have promised Jeff that the College of Engineer will contribute financially to the center to help support these community-building and outreach efforts.

I believe the proposed center will be helpful in raising the profile of the University of Utah in data science. Our overall reputation will benefit as the U becomes a data science leader in the Mountain West and nationally. The center will help us recruit top faculty and students who are interested in this area. It will also raise awareness of our data science strengths around the University and the State, and I expect this will lead to an increase in impactful interdisciplinary research and in external funding.

In summary, I whole-heartedly support the creation of this center. Please feel free to contact me with any additional questions.

Sincerely,

Richard B. Brown
Dean

THE UNIVERSITY OF UTAH
College Of Science

May 28, 2018

To Whom This May Concern:

I am writing in support of the creation of the Utah Center for Data Science. Data Science is a growing discipline changing how a significant amount of science is developed. It promotes and provides support for data-rich approaches that are at the forefront of many new directions within the College of Science. It is important that the University of Utah shows leadership in this area.

This will be a joint effort led by faculty members of the Department of Mathematics (CoS) and School of Computing (CoE), growing out of the Statistics TEP jointly led by these two departments. It will support important research efforts into new analysis and management techniques in this area. These advances and intellectual developments have potential to positively impact the research of many other groups within the College of Science, building on existing collaborations with proposed affiliated members John Horel (Atmospheric Sciences) and Kyle Dawson (Physics and Astronomy).

The recently opened Crocker Science Center (CSC) has a 6-faculty member office suite dedicated for CoS faculty participating in data science and statistics research. This space will be available to support activities of the Utah Center for Data Science, especially in the recruitment of new faculty.

Also, the engagement efforts the proposed members have already led, including the Data Science Day in January 2017, have had a positive impact on the university. I look forward to the other such ventures coming from this group.

Sincerely,

Henry S. White

Henry S. White
Distinguished Professor, Department of Chemistry
Dean, College of Sciences

THE UNIVERSITY OF UTAH

College of Social and Behavioral Science

Departments
Anthropology
Economics
Family & Consumer Studies
Geography
Political Science
Psychology
Sociology

Interdisciplinary Programs
Environmental & Sustainability Studies
Health, Society & Policy

ROTC
Aerospace Studies
Military Science
Naval Science

Institutes and Centers
Archaeological Center
National Center for Veterans Studies
Child & Family Development Center
DIGIT Center
Tanner Human Rights Center

April 22, 2018

Jeff Phillips
Associate Professor, School of Computing
University of Utah

Dear Dr. Phillips:

I am writing to provide my enthusiastic support for the Utah Center for Data Science. The center nicely brings together experts from across campus dealing with data science and will catalyze new collaborations among faculty members and provide needed training in this field.

I see multiple potential synergies that can occur with this new center and with faculty members in the College of Social and Behavioral Science (CSBS) as well as our newly proposed interdisciplinary research center, NEXUS. For instance, a number of our faculty members are using techniques from data science to inform spatial analyses through GIS, vocal frequencies among marital couples, and analysis of social media to inform suicide risk among veterans. A group of faculty members in CSBS focused on quantitative methods just received permission to hold ICPSR statistical workshops beginning this summer. These faculty members would greatly benefit from close collaboration with individuals within the Center for Data Science.

Further, our graduate and undergraduate students are desiring training in data science techniques and the resources described in the proposal (e.g., data science club and joint research seminars) will be of benefit to them. Increasingly our graduate students are finding employment in consulting positions that require such techniques. A recent panel discussion of our former graduate students employed in these firms confirms the importance of training in these techniques.

I look forward to future synergies between the Utah Center for Data Science and the College of Social and Behavioral Science and NEXUS.

Sincerely,

Cynthia A. Berg
Dean
Professor of Psychology

Office of the Dean
Building 73, First Floor
332 South 1400 East
Salt Lake City, Utah 84112

Inspiring human solutions to life's challenges

David Eccles School of Business
THE UNIVERSITY OF UTAH

Salt Lake City, Utah 84112

May 1, 2018

Subject: Letter of Support for Utah Center for Data Science

To Whom it May Concern:

I am writing to offer my enthusiastic support for the proposed Utah Center for Data Science. The role of Data Science in research and degree programs at the Eccles School has dramatically increased in the last few years as it has in the business world more generally. The proposed center will, through its various activities, provide a more fertile environment for both students and faculty. The benefits to students of activities such as seminars, campus-wide data science days, and campus-wide clubs are especially salient as they promise to both broaden perspectives and deepen skills. Given the increasing demand and competitiveness in Data Science applications in business, the Utah Center for Data Science promises to help our students become more competitive both academically and professionally. Faculty will benefit from the proposed center both through the activities of the Center and by being a part of a bigger and more diverse data science community.

In summary, the increasing importance of data science combined with the proposed center's important benefits to students and faculty justifies my strongest support for the establishment of the Utah Center for Data Science.

Sincerely,

Taylor Randall, PhD
Dean

Office of the Dean ▪ 1655 East Campus Center Drive, Spencer Fox Eccles Business Building, Room 7150, Salt Lake City, Utah 84112
801-587-3860 ▪ fax 801-587-3380 ▪ www.eccles.utah.edu

THE UNIVERSITY OF UTAH

Mathematics

155 S. 1400 E. Room 233 Salt Lake City, Utah 84112-0090 801-581-6851 FAX 801-581-4148

April 13, 2018

To Whom It May Concern.

I am writing to express the strong support of the Department of Mathematics for the proposal to form the *Utah Center for Data Science* (UCDS). Data Science is a fast-emerging, highly interdisciplinary, area of research on the interface of Computer Science, Mathematics, and Statistics, with applications to a vast number of other disciplines. The proposal is timely, there is ample university-wide, as well as state-wide, need for a data science center, and the faculty involved are well-known in the data science community and well placed to form the Utah Data Science Center. As a sign of its strong support for this proposal the Department of Mathematics has pledged $5,000 in support of the UCDS.

Sincerely,

Davar Khoshnevisan

Davar Khoshnevisan
Professor and Chair

THE UNIVERSITY OF UTAH

SCHOOL OF COMPUTING

50 C. Central Campus Drive RM 3190 Salt Lake City, UT 84112 801.581.8224 (Fax) 801.581.5843

April 24, 2018

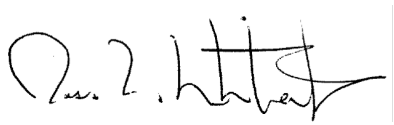
To Whom it May Concern:

I am writing to express my support for the proposed Utah Center for Data Science, led by faculty in the School of Computing and Department of Mathematics. Research in the data science and the underlying techniques and tools has been an enormous growth area in computer science, and I believe will continue to be a driver of research efforts and growth within the School of Computing for a long time. The creation of a center on this topic will be an important way to signify our national presence in this area, which will help in recruiting, and I hope will also help spur more research collaborations around the university.

Moreover the outreach and engagement endeavors of the members of the proposed center, like the Data Science Day and the Data Science Club, have already had tangible impact in helping bring more students into our courses and in general expand the interest in this area. There is enormous support for more growth in this area from local companies, so this also helps us with our standing in the growing local industry in data science. These efforts are really important, and I believe they are crucial to keep momentum behind for the continued shaping of this area as a scientific discipline.

To help support the continued growth of this effort, the School of Computing is offering $5000 to seed the budget for the center. I have also promised that the center members will be able to continue to use a space the SoC controls (room MEB 3345) as a hub for center activities.

Yours truly,



Ross T Whitaker
Director, Professor

Membership Plans for Utah Data Science Center

September 13, 2018

Overview

This documents describes procedures by which new Core and Affiliated Members can join the Utah Data Science Center. It also outlines basic responsibilities and expectation of each type of member.

Core Members

Core members of the Utah Data Science Members consist of the faculty in the most active and central role for the center. They should expect to occasionally take on leadership roles within the center, actively participate in its events, and participate in efforts to secure funding for the center activities. For instance, all core members will plan to regularly attend and participate the Data Science Seminar.

Beyond the main director who will oversee all activities, other leadership roles will initially include the Associate Director of Research (in charge of organizing seminars), the Associate Director of Outreach (in charge of coordinating outreach events like the Data Science Day), and the Associate Director of Student-Involvement (in charge of integrating students into activities, including mentoring the Data Science Club).

To become a core member, one must be nominated by an existing core member. An email to the other core members explaining how the proposed member will contribute to the center's mission will serve as a nomination. Nominations of a potential core member should only be made if that person shows interest and commitment to the role.

A nomination is successful, and the person becomes a core member if they receive at least $2/3$ of votes among core members in favor, out of all core members. Voting can be done in person at a meeting of core members (with at least $2/3$ present), or over email. Over email, the voting will close after 1 week.

Core members will be removed from this role if either (a) they request to be removed, or (b) they no longer are associated with the data science efforts in Utah.

Affiliated Members

Affiliated members of the Utah Center for Data Science consist of faculty and researches who bring expertise and connections to the center for uses of data science, and the associated resources and challenges. They will often be collaborators with core members, and leaders in using data science for particular domains. Their role will be to connect the center to the broad disciplines around Utah which rely on data science.

To become an affiliated member, one should send a letter or email of interest to the Center Director or Associate Director of Outreach. The letter should describe how they will contribute to the Utah Center for Data Science.

A request is successful if on a vote among core members, they receive more than $1/2$ of votes in favor, out of all core members. Voting can be done in person at a meeting of core members (with at least 2/3 present), or over email. Over email, the voting will close after 1 week.

Affiliate members will be removed from this role if either (a) they request to be removed, or (b) they no longer are associated with the data science efforts in Utah.

Timing and Updating Membership

Voting on new members, both Affiliate and Core, will take place twice a year (conditioned on requests or nominations). Each vote will take place within 1 month of the start of the Spring, and of the Fall semester. The Center Director will facilitate a physical or email meeting to hold these votes. All nominations and requests must be collected and distributed prior to the start of the meeting.

The people serving as core and affiliate members will be maintained on the Utah Center for Data Science website under the domain `http://datascience.utah.edu`. Changes in membership will be reflected within two weeks of the bi-annual meetings which decide membership.

Current Members

This document was read and agreed to by all core members in September 2018.

At the time of this agreement, the following people are Core Members:

- Aditya Bhaskara
- Lajos Horvath
- Alexander Lex
- Feifei Li
- Braxton Osting
- Jeff M. Phillips
- Bei Wang Phillips
- Vivek Srikumar
- Suresh Venkatasubramanian
- Shandian Zhe

And the following people are Affiliated Members:

- Kyle Dawson
- Olivia Sheng
- Zac Imel
- Sarang Joshi
- Tolga Tasdizen
- John Horel
- Xiaoyue Cathy Liu
- Amanda Smith
- Taylor Sparks
- James Sutherland
- Brian Chapman