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**DATA SCIENCES
INSTITUTE**

Summer Undergraduate Data Sciences (SUDS) Research Opportunity

January 10, 2023

Wenzhe Xu

Programming Coordinator & SUDS Officer, Data Sciences Institute

datasciences.utoronto.ca

Land Acknowledgement

We wish to acknowledge this land on which the University of Toronto operates. For thousands of years it has been the traditional land of the Huron-Wendat, the Seneca, and the Mississaugas of the Credit. Today, this meeting place is still the home to many Indigenous people from across Turtle Island and we are grateful to have the opportunity to work on this land.



DSI SUDS Info Session Guideline

- Presentation slides and recordings will be shared
- Please remain muted.
- Ask questions in the Slido.
- This is a safe space. We require all participants to show respect to each other. Non-compliance will result in removal from the event.

Access Slido here (QR Code)



Or visit **slido.com** and join
with code **#1479486**






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TODAY'S Outline

-  What is the DSI?
-  Inspiration & Opportunities
Summer Research? Why DSI?
-  Application Steps and Process
Eligibility, requirement, reference, etc.
-  Application tips from PIs and
former SUDS Scholars
-  Q & A

About Us



A research and training hub for
data science activity at the
University of Toronto.

Mission: To accelerate the impact of data
sciences across disciplines to address
pressing societal questions and drive
positive social change



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DSI SUDS Research Program



Laura Rosella, Associate Director, Education & Training, Data Sciences Institute
Associate Professor, Dalla Lana School of Public Health, and
Temerty Faculty of Medicine Dept of Laboratory Medicine & Pathobiology



Wenzhe Xu, Programming Coordinator & SUDS Officer, Data Sciences Institute
SUDS.dsi@utoronto.ca



DSI SUDS Research Program



Undergraduate students interested in data science have an exciting opportunity to:

- Engage in hands-on research and valuable experience to help you apply to graduate or professional schools
- Develop more advanced skills
 - Present your research
- Meet DSI researchers and students from a range of disciplines
- Engage in social, academic, and professional development opportunities



Faculty members and principal investigators with summer research opportunities focused on **data sciences methodology or applications in any research area.** Projects can include any aspect of basic, applied, or clinical research. DSI provides \$7,200 for 12-weeks during May-mid-August 2023. (Supervisors can top up)

Visit [Slido.com](https://www.slido.com) and join with code **#1479486** to leave your questions



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Scan to read their stories:
A summer of learning, fun and
community for 2022 DSI SUDS
Scholars



In Summer 2022,
We welcomed 35 SUDS Scholars from across University of Toronto and Canadian universities



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Student eligibility:

**Apply to Be a DSI
SUDS Scholar!**
DSI will support and
fund up to 25 students
for 2023.

- ☐ Registered as a full-time student in a bachelor's degree or professional undergraduate degree program at a Canadian university/college (at the time of application)
- ☐ Canadian citizen, permanent resident of Canada, or foreign student with valid student visa for the full summer.
- ☐ We do not have a required minimum GPA for the SUDS program; however, we recommend minimum GPA of 3.3/4.0 for applicants as the program is competitive.
- ☐ DSI is strongly committed to diversity within its community and especially welcomes applications from racialized persons / persons of colour, women, Indigenous / Aboriginal People of North America, persons with disabilities, LGBTQ2S+ persons, and others who may contribute to the further diversification of ideas.





How will it work?

- 1 Supervisors who have one or more position available for a summer student submit their research opportunity. Supervisors list specific skills they are looking for the SUDS student.
- 2 DSI reviews the proposed opportunities. The approved list of research opportunity descriptions and supervisors are posted on the DSI website. Interested students apply and rank their top 3 choices.
- 3 The DSI office reviews the student applications for completeness, eligibility, matching of skill set, and forwards student applications to the supervisor for selection and approval.
- 4 Students engage in their data science research and, in addition, the full SUDS student cohort across all research areas are provided with data sciences networking, academic and professional development opportunities.

What to expect during your summer position as a DSI SUDS Scholar?

- The funding is meant to support the project from May to mid-August. Time commitment to the SUDS program is full-time equivalent.
 - Start dates and terms of work are flexible and should be decided between you and your supervisor
- In person, virtual and hybrid positions are available depending on the research, project, and preferences of you and your supervisor
- In addition to your research during the weeks, you'll have the opportunity to attend data science skills and professional development workshops – you must attend at least 75% of the sessions to complete your SUDS program

Summer Undergraduate Data Sciences Research Experience @ DSI

Providing opportunities for a
research experience and
data sciences approaches to
research in various fields



Scan to view the 2022 DSI
SUDS Cohort Activities

- Research opportunities
- Data Science Skills Day: Practical skills in Unix Shell, Python, R, SQL, advanced topics, etc.
- Professional Development: Applying for grad school, creating poster, visualizations, research software tools, methodologies
- Data Science @ Work Series: Data Science in real world practices, case studies, etc.
- SUDS Scholars presenting your research projects at SUDS Research Day
- And more



Visit [Slido.com](https://www.slido.com) and join with code **#1479486** to leave your questions



Research Opportunities

Image:

Anthony McCanny: *The Data Science of a Satisfying, Purposeful, and Engaging life*
Supervisor: Prof. Felix Cheung, Psychology, Faculty of Arts & Science, UofT



Scan to view the 2023 DSI
SUDS Opportunities

SUDS research opportunities are focused on data sciences methodology applications in any research area.

Research opportunities can include any aspect of basic, applied, or clinical research.

There are a wide range of proposals in various disciplines:

- ☐ Life Sciences
- ☐ Physical Sciences
- ☐ Social Sciences
- ☐ Humanities



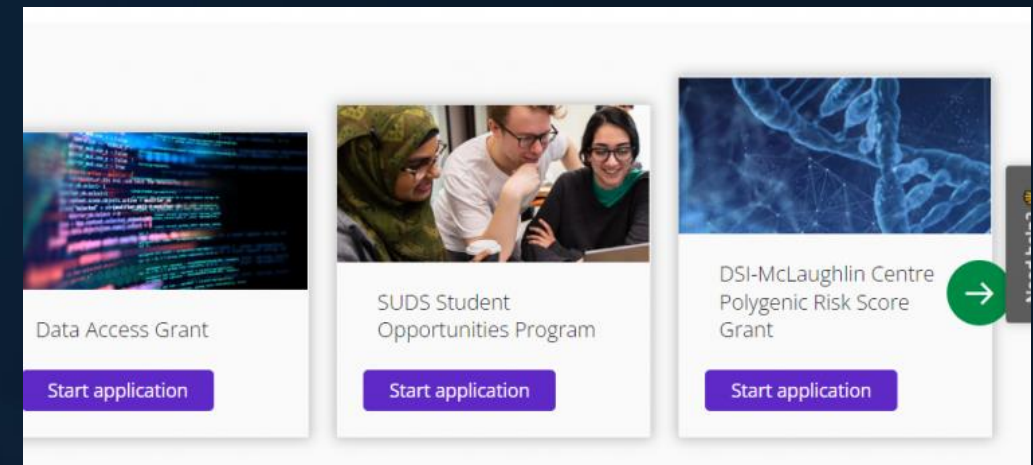
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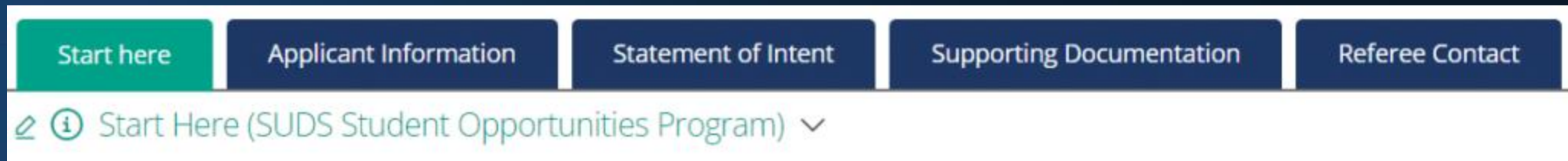
Application Process

- Student applications for SUDS opportunities are submitted via the [DSI Good Grants application portal](#).
 - Click on the link above or scan the QR code
- Register an account and select “Start Application” for “SUDS Student”



Application Process

- The application is divided into tabs; each tab includes a set of instructions and fields to fill out. These instructions are also highlighted below.



Application Process: Tab 1 – Start Here

- Competition
 - SUDS Student Opportunities Program
- Application name
 - Your name – will be auto filled
- Go to “Save + next”

The screenshot shows the 'Start here' tab of the application process. At the top, there are four tabs: 'Start here' (active), 'Applicant Information', 'Statement of Intent', and 'Support'. Below the tabs, there is a heading 'Start Here (SUDS Student Opportunities Program)' with a dropdown arrow. The main text area contains instructions: 'You are starting an application for the Data Sciences Institute SUDS Student Opportunities Program. The deadline for the Letter of Reference and your Demographic Survey is February 2, 2020. Please click "Save + next" to start. Saving this tab starts an application file associated with your account. Once your file is saved, you will not be able to submit your application until all required information is provided. You will receive an automatic confirmation to your email when you submit your application. For any inquiries, please email SUDS.dsi@utoronto.ca.' Below this text, there is a 'Competition' section with a dropdown menu set to 'SUDS Student Opportunities Program'. A link 'Download blank application PDF for reference' is provided. The 'Application name' section has a text box containing 'Wenzhe Xu'. At the bottom, there are three buttons: 'Save + next' (highlighted in purple), 'Save + close', and 'Preview'.

Start here Applicant Information Statement of Intent Support

Start Here (SUDS Student Opportunities Program) ▾

You are starting an application for the Data Sciences Institute [SUDS Student Opportunities Program](#). The deadline for the Letter of Reference and your Demographic Survey is February 2, 2020.

Please click "Save + next" to start. Saving this tab starts an application file associated with your account. Once your file is saved, you will not be able to submit your application until all required information is provided. You will receive an automatic confirmation to your email when you submit your application. For any inquiries, please email SUDS.dsi@utoronto.ca.

Competition

SUDS Student Opportunities Program ▾

[Download blank application PDF for reference](#)

Application name

Wenzhe Xu

Save + next Save + close Preview



Application Process:

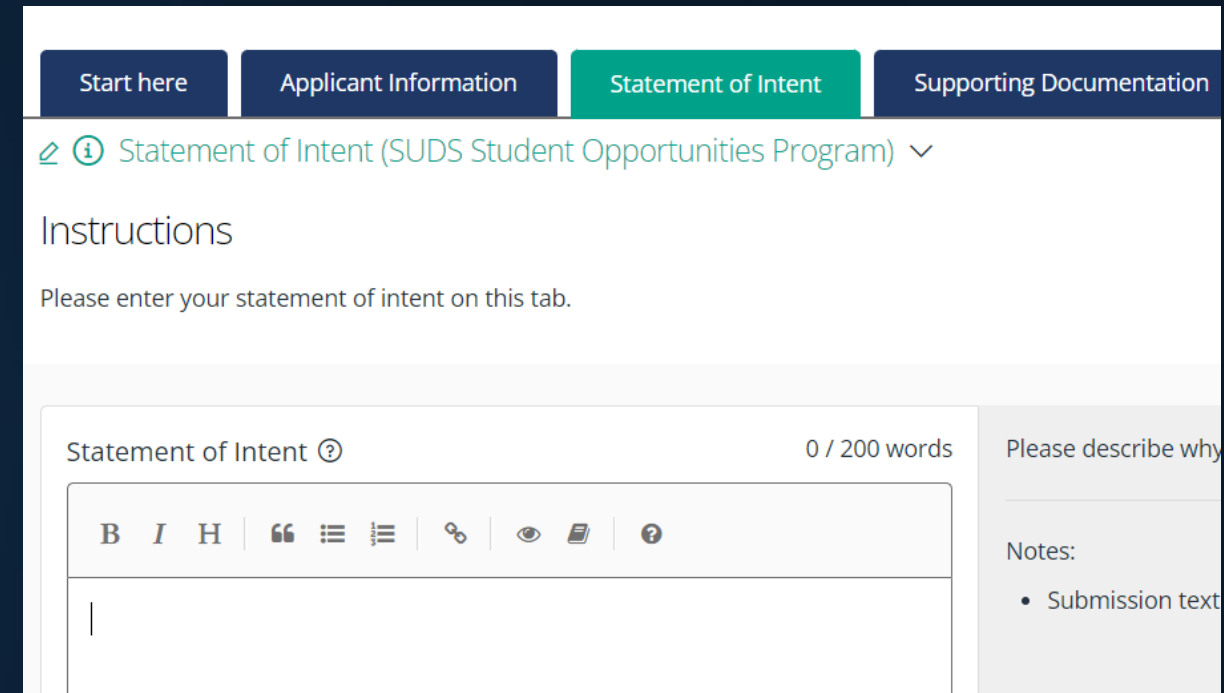
Tab 2 – Applicant Information

- Personal information
- Go to “Save + next”



Tab 3 – Statement of Intent

- Student Statement (maximum 200 words): summarize your suitability for the SUDS program and your training goals.
 - Please describe why you would be an ideal candidate for SUDS.
- Go to “Save + next”



The screenshot displays the SUDS application portal interface. At the top, there are four tabs: 'Start here', 'Applicant Information', 'Statement of Intent' (which is highlighted in green), and 'Supporting Documentation'. Below the tabs, a breadcrumb trail shows 'Statement of Intent (SUDS Student Opportunities Program)' with a dropdown arrow. The main heading is 'Instructions', followed by the text 'Please enter your statement of intent on this tab.' Below this is a text input area titled 'Statement of Intent' with a word count of '0 / 200 words'. The input area includes a rich text editor toolbar with icons for bold (B), italic (I), heading (H), quote, list, link, unlink, image, and help. To the right of the input area, there is a sidebar with the text 'Please describe why' and a 'Notes' section containing a bullet point '• Submission text'.



Tab 4 – Supporting Documentation

- Upload your resume or CV in PDF format.
- Upload your unofficial transcript(s) for initial review. If you have multiple transcripts, please save them in a single PDF file.
- Make sure you will be arranging the official transcript(s) for your SUDS application.
- Go to “Save + next”

The screenshot shows the 'Supporting Documentation' tab of the SUDS Student Opportunities Program application. The interface includes a navigation bar with tabs: 'Start here', 'Applicant Information', 'Statement of Intent', 'Supporting Documentation' (active), and 'Refer'. Below the navigation bar, there is a section titled 'Supporting Documentation (SUDS Student Opportunities Program)' with a dropdown arrow. Underneath, the 'Instructions' section states: 'Please upload your supporting documents on this tab.' and 'Please note that while we will accept unofficial transcripts for initial review, you must arrange for your official transcript(s) to be sent to the institution to SUDS.dsi@utoronto.ca. An official transcript must be an original document bearing the institutional seal and signed by a school administrative officer. If we do not receive your official transcript before the application deadline, we would still accept unofficial transcripts, but please note that unofficial transcripts submitted will be matched against official transcripts once received.' The main content area has two sections: 'Resume / CV Upload' and 'Unofficial Transcript'. The 'Resume / CV Upload' section has a 'Replace' link, a large dark box with a PDF icon and the text 'PDF', and a download link for 'Course Descriptions... (185.92 kB download)'. The 'Unofficial Transcript' section has a 'Replace' link.



Tab 5 – Referee Contact

- Contact information for an academic reference who will fill out the form.
- We recommend that you notify your referee in advance of submitting your application, ensuring you can submit their email address as part of your application.
- Go to “Save + next” to Submit

[Start here](#) [Applicant Information](#) [Statement of Intent](#) [Supporting Documentation](#) [Referee Contact](#)

[🔗 ⓘ Referee Information \(SUDS Student Opportunities Program\) ▼](#)

Instructions

Please enter your referee's information on this tab.

When this application form is submitted, either on or before the deadline, your referee will be notified and asked to submit their contributions to the application. Your referee will be able to see identifying portions of your application; their submissions will remain invisible to you.

We strongly recommend that you contact your referee before you supply their information, confirm that they are available to submit a reference, and provide your referee with your institution/organization email address that they wish you to use. References submitted through dossier services such as Interfolio are not accepted. We will ask you to create a Good Grants account.

Referee Name ⓘ

Please provide the full name for your referee.

Referee Email ⓘ

Please provide your referee's institutional email address. The email provided must be used by your reference to register for Good Grants. You may want to check (a) if your referee has a Good Grants account and/or (b) has a preferred email for registration.

Referee Organization ⓘ

Please provide the organization for your referee.



Ranking the Opportunities

List of Projects *

Please select your top three preferences from the list below. Drag your three selections from the full list into the second column in order of preference.

Drag items from the left-hand list into the right-hand list to order them.

A Climate Downscaling Workflow
for Engineering and Climate
Impacts Analysis: UTCDW



A Comparison of Missing Data
Methods for Clinical Trials



A website for large-scale data
collection on social, moral, and
political attitudes



Abnormal brain cell activity in a
mouse model of Alzheimer's
disease



Advanced data processing of
Ontario Laboratory Information
System



Algorithmic (Un)Fairness in



After Submission

Once you have submitted your application on or before January 26, the following things occur:

1. **Rank the Opportunities**: You will receive a confirmation email that includes a link to rank your top 3 SUDS research opportunity choices.
2. **Demographic Survey**: You will receive a confirmation email that includes a link to a Demographic Survey. When filling it out you have the option to select “Prefer not to answer” for all questions.
3. **Reference form**: The Referee indicated on the tab “Referee Contact” will receive an email requesting that they log into Good Grants to fill out the reference form.



Advice from a DSI SUDS Supervisor: Application Materials

- Communicate your skill sets in your application materials based on your understanding of the “research opportunity description” and “skills required” sections



Important Dates

- The deadline for student applications is January 26, 2023.
- The deadline for the Reference Form and your Demographic Survey is February 2, 2023, 23:59 ET.
- Students will be notified in early March.



Additional FAQs, Advice and Resources



Frequently Asked Questions

I am an international student studying in Canada. Can I apply for SUDS?

Yes. International students are eligible for the SUDS program; however, you must be studying in a Canadian university with a valid study permit throughout the summer.

I am a second entry PharmD in my first year. Can I apply for SUDS?

Yes. Undergraduate second entry students – e.g., law, medicine, nursing; are eligible for the DSI SUDS Program

I am not majoring in data science /statistics, can I apply for SUDS?

Yes. There is no program requirement as a prerequisite to the SUDS program. However, you should have the skills that are required for the opportunity.

What makes a strong candidate?

Emphasize your experience and/or skills you have can contribute to the project(s). Demonstrate academic and/or research excellence and high potential for success in their chosen fields.

Should applicants already have strong background in data science, or will strong computational skills and research potential suffice?

This depends on the proposed project and research environment. The data science skills of the applicant should align well with the proposed project.



Frequently Asked Questions

I am a visiting student, can I apply?

Depends. If you are a visiting student from other countries, you will not be eligible since your degree is not with a Canadian university. If you are a student with a Canadian university, but visiting other universities, you can apply for SUDS.

I am in my last semester of my undergraduate degree, can I apply?

Yes. At the time of application, you can be in your first year, or last year in your bachelor's degree – you can be at all stages and experience levels as an undergraduate student

I am a graduate student with a completed undergraduate degree, can I apply for SUDS?

No. However, the DSI has other opportunities and grants, such as doctoral and postdoctoral fellowship. Scan to view other funding programs:



How many reference do I need? Who can be my referee?

The SUDS application requires **one academic** reference. It can be your course professor, lab PI, or research supervisor.

Does attending the SUDS program cost any fees?

No. Instead, \$7,200 CAD at minimum provided by the Data Sciences Institute to the supervisor for the student. Any supplement above this level may be set at the supervisor's or department's discretion.



Frequently Asked Questions

What areas of research are available for SUDS?

Research are from any area—social sciences, humanities, life and physical sciences. Research can include any aspect of basic, applied, or clinical research.

Scan to view:



Do you have examples of previously SUDS research?

Scan to read their stories: A summer of learning, fun and community for 2022 DSI SUDS Scholars



Please define what data sciences encompasses.

With increasingly larger and more complex data comes the challenge of **collecting, manipulating, storing, visualizing and extracting information from the data, in reproducible, fair and ethical ways.** (See DSI website)

I currently hold another summer opportunity. Can I apply for SUDS?

As the setting of the SUDS program is a full-time commitment, successful student applicants cannot accept more than one summer studentship regardless of the funding source.

Is the workshop (cohort programs) part of the commitment?

Yes. To complete the SUDS program, all selected summer students must attend a minimum of 75% of the weekly seminars and will be invited to present at the SUDS Showcase Day.



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Advice from a Past DSI SUDS Scholar: How did I choose my opportunity?



Lauren Gill, SUDS Scholar 2022

Project: *Data Science for White Shark Conservation*

Best Presentation Awarded in SUDS
Research Day 2022



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More Advice from DSI Trainees

"Unleash your curiosity and spark conversations with your supervisor and fellow SUDS scholars. You will benefit incredibly from the cohort programming. I've learned and enjoyed so much about the professional and human sides of academia."

- Ruisi Rachael Li, SUDS Scholar 2022

"Relevant past experience can be important but it does not limit yourself from exploring new fields! When applying for a project in the area that's new to you, highlighting genuine interest and/or any transferable skills from past may be helpful!"

- Grace Yu, SUDS Scholar 2022


"I found that the skill building workshops (intro to R, python, Bash) were extremely helpful and I recommend committing to these as much as possible!"


"There is no need to pretend that you know everything! Asking for help from my supervisor was a valuable learning experience plus helped the project move along faster."

- Lauren Gill, SUDS Scholar 2022, Best Presentation Awarded



THANK YOU

 Send us your questions
SUDS.dsi@utoronto.ca

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<https://datasciences.utoronto.ca/maillinglist/>

 Follow us @UofTDSI



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Q&A and Feedback

