

$$t\text{-stat} = \frac{\bar{x}_n - \mu}{s/\sqrt{n}}$$

$$s^2 = \frac{1}{n-1} \sum_{i=1}^n (x_i - \bar{x})^2$$

The School of Statistics

On the frontier of the digital universe

Twenty-first century data scientists face both unprecedented challenges and unbounded opportunities to extract and interpret the content of our exploding digital universe. This universe is expanding so rapidly that by 2020, we will be creating 1.7 megabytes of new information every single second for every human being on the planet.

Fundamentally, statistics is the science of learning from this data and creating value for the physical world – whether that means running a Google search, analyzing DNA, storing images, creating a store display, or even answering questions about social justice or human rights violations.

Statistics are so pervasive, in fact, that statistical literacy is becoming a non-negotiable 21st-century skill.

Thanks to the growing recognition that data-analysis skills and statistical thinking are potent tools for many career paths, statistics is the fastest-growing STEM field

in the country. Such lively job prospects have drawn increasing numbers of graduate and undergraduate students to the field, and the University of Minnesota School of Statistics is among the most rapidly expanding: From 2004 to 2014, the number of undergraduate statistics majors increased 560 percent.

As we map new frontiers in research and applications, your support will help fuel our ambitious agenda and secure our place in the top tier of statistics programs.



Institute for Research on Statistics and its Applications (IRSA)

Launched in 2016, IRSA promotes research in all aspects of statistics and data science, fosters the growth of collaborative and interdisciplinary research, and advances the use of statistical and data science methodology in activities affecting the critical challenges facing humanity. Your gifts will support interdisciplinary

conferences and data science training programs, bringing together researchers from across the University and the nation to focus on problems of critical importance. With your support, we can focus on providing the data science tools necessary for researchers, students, and the public to tackle some of the world's toughest problems.



Investing in tomorrow's leaders

Attracting top-notch graduate students has always been a priority. Your gifts will strengthen our fellowship and assistantship packages and keep us competitive with peer departments in the Big 10 and across the country. With your help, we'll recruit the next generation of academic and industry leaders to Minnesota.



Preparing students for career success

Nothing is more important than experiential learning when it comes to career readiness. We require that all PhD students participate

in an internship either in the community or at the University, and our MS and undergraduate students are encouraged to complete a consulting project during their study.

Your support for internship experiences helps ensure that any student, regardless of financial status, can accept an unpaid internship and chart a path to success.



Meeting the needs of our community

Through the Dr. Lynn Y. S. Lin Statistical Consulting Center, we're designing experiments and surveys, and performing data analyses for thousands of our colleagues' research projects each year.

Now we're extending these services to Minnesota's arts, governmental, nonprofit, and business communities. With your support, our unique program will provide consulting services to organizations in need of thoughtful, experienced assistance, and

will also create a practical experience for students who want to expand their expertise.

Your gifts will pay for faculty and graduate students to do their work in a first-of-its-kind service that will serve as a model for the rest of the nation.



Daniel Prentice,
Seagate Intern

“As an intern at Seagate I worked in a small, independent data analytics support organization, and as a result I got to take the lead on a number of projects requested by engineers. One of my coworkers was really great in sharing his expertise in data engineering, so I was able to dramatically expand my expertise in computationally handling big data.

My coursework and research at the University gave me a rich base of statistical knowledge and theory to draw upon, but the actual use and management of huge data sets, including designing production quality software systems, is not something I encountered until my experience at Seagate. As a result of this experience I am now considering a career in industry. The scholarship funding is what made this internship possible for me.”

SHATTERING EXPECTATIONS School of Statistics

STATCOM stands for Statistics in the Community. It is a volunteer student-run organization that leverages the expertise of the department's graduate students to provide free consulting services to local nonprofit, government, and community service organizations. It provides a great platform for our students to solve real world problems at an early stage in their careers and get a broad picture of how statistical consulting works.

Students learn to work with clients and transform the abstract problem statement from the client into an analytic form. The faculty also serves as a guiding point for the students, providing advice and support during their projects. STATCOM aims to bridge the gap between academia and industry.



**Ved Piyush,
graduate
student**

“Our work in STATCOM makes a difference for the community by leveraging statistics to solve real world problems.”