Actuarial Science Club
ALUMNI NEWSLETTER
Spring 2022 Edition

UNIVERSITY OF ILLINOIS
Actuarial
Science
Club

EDITORS' NOTE

Back to the Basics

Throughout the Spring 2022 semester, the Actuarial Science Club was excited to bring back events that had not occurred over the past few years. The annual Spring Symposium took place in a hybrid in-person and virtual format, allowing students to network and discuss with speakers in-person.

Additionally, the Spring Banquet took place for the first time since 2019. It was great to see familiar faces, as many alumni and company representatives were in attendance. In this newsletter, we celebrate another successful year for ASC and look forward to the future.

Go Illini!

ABOUT THE EDITORS

Anna Schulz

Major: Actuarial Science & Communication
Year: Sophomore

Anna is the Publicity Chair and is from Mount Prospect, IL. In her free time, she enjoys traveling, dancing, and reading.

Luke Miller

Major: Actuarial Science
Year: Junior

Luke is a part of the Publicity Committee and is from Elmhurst, IL. In his free time, he enjoys playing hockey, practicing trumpet, and classical concerts.

Stephanie Yang

Major: Actuarial Science & Statistics
Year: Freshman

Stephanie is a part of the Publicity Committee and is from Elmhurst, IL. In her free time, she enjoys reading, hammocking, and playing cards.

Andrea Wilcox

Major: Actuarial Science & Communication
Year: Senior

Andrea is the Vice President Internal and is from Grant Park, IL. In her free time, she enjoys drawing, traveling, and cooking.

CONTENTS

COVID-19 CAMPUS UPDATES

The University of Illinois has continued their efficient COVID–19 containment efforts. Continuing this spring semester, students were required to show proof of full vaccination to have access to university buildings and in-person classes. This helped keep new COVID cases on campus to a minimum. Vaccine appointments and booster appointments were made available to students and faculty. Starting this semester, masks were not required in university buildings and students only had to wear masks during in–person classes.

Looking forward, we are excited to continue to contain COVID and return to normalcy.

95%
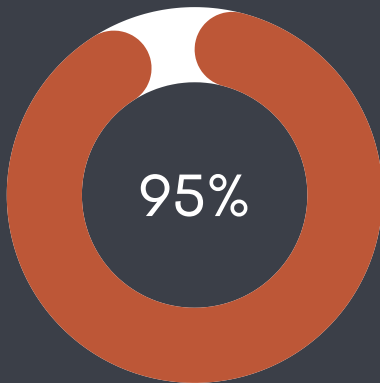
of UIUC is fully vaccinated*

OVER
2.7 MILLION*
TESTS
ADMINISTERED

*data as of May 2022

SPRING EVENTS

Workshops

- Case Competition Workshop
- Actuarial Scholarships Workshop
- Art of Networking Workshop
- Broadening the Job Search Workshop
- Virtual Networking Workshop
- Professional Writing Workshop
- Diversity and Inclusion Panel

Seminars

- ASC Webinar: Randy Wright
- ASC Webinar: Natasya Ng
- Symposium: Actuarial Perspectives on Climate Change
- EY Industry Trends Presentation

Social Events

- Joe's Happy Hour
- Apartment Bash
- Club Dinner @ Noodles & Company
- Illini Union Bowling
- Game Night
- Barn Dance
- International Karaoke Party
- Bar Crawl
- Semi-Formal
- Apartment Crawl

Networking & Outreach

- Networking: Nationwide
- Networking: Mutual of Omaha
- Actuarial Alumni Panel
- International Alumni Panel
- Spring Banquet
- Milliman Field Trip

Risk Analytics Symposium 2022:
Actuarial Perspectives on Climate Change

On March 25th, 2022, the Actuarial Science Club at the University of Illinois in Urbana, Champaign, alongside the Illinois Risk Lab, hosted its annual Spring Symposium. This event aims to inform attendees about emerging trends within the actuarial world and bring together experienced business leaders and academic researchers to share their expert insight. The theme of this year's symposium was Actuarial Perspectives on Climate Change, a continuation from last year's symposium, which explored solving emerging risks across the insurance industry using innovative methods, including InsureTech, AI, and data analytics. However, contrary to last year, this year's symposium dived deeper into the risk of climate change, a very relevant topic in the industry, as stronger and more frequent natural disasters caused by global warming have already generated great physical and financial losses for families and businesses.

The Risks Analytics Symposium 2022: Actuarial Perspectives on Climate Change was a hybrid half-day event where university students, as well as academics and industry professionals, had the opportunity to network and view live discussion panels in-person at UIUC or virtually through Zoom.

The event took place from 10 am to 2 pm, and consisted of two panels moderated by Ryan Sriver, professor of atmospheric sciences at the University of Illinois. During the morning session, Raghuveer Vinukollu, Senior Vice President for Climate Resilience and Solutions at MunichRe, and Bessie Schwarz, CEO and Co-founder of Cloud to Street, discussed mitigating climate risk using satellite imagery from an industry perspective. During the afternoon session, James Jones, Executive Director of the Katie School of Insurance and Risk Management at Illinois State University, and Kaiyu Guan, professor in ecohydrology and remote sensing at the University of Illinois, discussed the effects of climate change on crop insurance from an academic perspective.

Organizing Committee:

Naomi Logan, Workshops Chair
Drew Taylor, President
Andrea Wilcox, Vice President Internal
Henry Wu, Vice President External
Anika Chakraborti, Workshops Committee
Pooja Khatri, Workshops Committee
Sam Jourdan, Workshops Committee
Frank Quan, Illinois Risk Lab
Runhuan Feng, Illinois Risk Lab

If you are interested in participating in the 2023 Spring Symposium, please contact Naomi Logan at vpinternal@asc-illinois.com or Pooja Khatri at workshops@asc-illinois.com for more information.

SPRING BANQUET

On April 14th, 2022, the Actuarial Science Club hosted our 13th annual Spring Banquet. After a 2-year hiatus, the Actuarial Science Club resumed its tradition of celebrating the successes of the Actuarial Program and graduating class at the Alice Campbell Alumni Center. This celebration was particularly special since we commemorated the successes of the past 3 years of our actuarial program.

Of the 70 attendees, 48 guests were students and 22 were alumni, company representatives, and faculty. There were representatives from Aon, PwC, Allstate, Axis, State Farm, At-Bay, and Deloitte! Our keynote speaker was Sara Frankowiak, FCAS, CPCU, and the Vice President of P&C Actuarial at State Farm. Shortly after, Program Director Runhuan Feng spoke about some endeavors of the department such as the new MS in Predictive Analytics. Professors Frank Quan and Claudia Freiji gave speeches on behalf of the IRisk Lab and all the new faculty members in the program: Stefanie Klajbor-Goderich, Xiaochen Jing, Paul Serafini, Tim Cardinal, and Wei Wei.

This year's Actuarial Alumni Scholarship recipient Yi Yuan gave a speech on her gratitude for this award and how the UIUC Actuarial program has set her up for success. Next, there was a recognition of all the other scholarship recipients, professors, TAs, and graders. Finally, the event wrapped up with a "passing of the baton" between the current and incoming board members, as each individual in the current role provided advice in the form of a letter to their successor.

Overall, we are grateful to all those who could attend and help make the event such a success. The Spring Banquet for 2023 is set for **Thursday April 13th, 2023** at the Alice Campbell Alumni Center, so make sure to save the date!

Contact Emily Hylbert at outreach@asc-illinois.com with any questions!

SOA Update:
University-Earned Credit

Starting in the third quarter of 2022, the SOA will be implementing a new way for college students to receive actuarial exam credit. Universities that have been a Center of Actuarial Excellence for two consecutive years will qualify for the new University-Earned Credit program, or UEC program. If implemented by universities, students will be able to earn credit for certain SOA exams by getting the required UEC score in the course.

The University of Illinois's Actuarial Department applied for the UEC program in the Fall. As of this semester, the Actuarial Department has been granted a site visit taking place on April 25th to confirm that UIUC is eligible for the UEC program. Additionally, a UEC version of the SRM class was piloted this spring, helping the Actuarial staff experiment with the challenges of the UEC program and find solutions before the actual class would take place.

The department will know more details about what courses will be offered as UEC courses and how they will be administered in the coming weeks. We are very excited about this new development!

IRISK LAB

What is the iRisk Lab?

Officially established in Fall 2018, the Illinois Risk Lab (IRisk Lab), in the Department of Mathematics at the University of Illinois at Urbana-Champaign, grew out of the Research Program in Risk and Actuarial Science, which was sponsored by the Society of Actuaries from 2014 to 2017. The IRisk Lab currently serves as an industry-academic collaboration hub, facilitates the integration of discovery-based learning experience for students, and showcases state-of-the-art research in all areas of Risk Analysis and Advanced Predictive Analytics.

Opportunities include research projects, student consulting, research seminars and the Risk Analytics Symposium. Faculty, industrial partners, and students collaborate to address business-oriented research problems. Throughout the semester, students will gain real-life experience in innovative research, collaboration, and presentation skills. Besides, our industry partners will be able to access the latest progress and new perspectives from our collaborative research, and identify potential future employees from our student researchers.

Interested in University and Industry collaboration?
Please reach out to: irisklab.uiuc@gmail.com

Automated Machine Learning (AutoML)

Machine Learning (ML) techniques have been applied broadly in the field of actuarial science and achieve fruitful results. However, to solve a practical problem with ML, the agent needs to preprocess the dataset, choose the proper ML tools, and tweak the hyperparameters of the model. All these steps are task-specific and require expert knowledge, which may render less effective ML model performance when operated by a non-ML-expert agent.

To this end, AutoML is developed to facilitate the usage of ML by non-expert agents and aims to integrate the automated data processing, model selection, and model tuning into one system. This project continues on the development of an existing AutoML pipeline that adapts and modifies the AutoML packages (for example, AUTO-SKLEARN) to fit better for the actuarial ML problems.

AXIS Systemic Cyber Threats

AXIS Capital is one of the major insurance carriers that provide cyber policies. As the world is becoming more connected than ever, systemic cyber threats pose a great risk to businesses that rely on information technology, as well as to insurers like AXIS, who provide financial protections to those businesses. As an example of systemic cyber threats, the outage of cloud services may simultaneously impact many policyholders, thus leading to a large number of claims that AXIS shall be responsible for. To improve insurers' resilience against this risk, this project aims to explore and identify a suite of internal systemic cyber threat scenarios that together are broad enough to cover the entire threat landscape, but individually are specific enough to be used in practice on a stand-alone basis to support business decision making and risk understanding.

Furthermore, in this project, we will try to characterize each scenario for the inference of its occurrence likelihood and severity, and the results will be used to support setting capital and pricing loads, to challenge probabilistic risk modeling approaches, to monitor and manage exposure and risk trends, and may be used to set strategy.

Building an NLP-Powered Repository and Search Tool for Cyber Risk Literature

Since the time when cyber insurance was first introduced to the market, there has been a rapidly expanding volume of literature that focuses on other aspects of cyber risk, such as the legal and financial consequences of cyber incidents, and they are closely related to the development of the cyber insurance industry. With the large and growing body of cyber risk literature, we see three major challenges faced by the actuarial research community,

- No context-aware tool for finding cyber risk resources
- No central repository of cyber risk resources
- Lack of accounting for trends in cyber risk research

To address the above mentioned challenges, we propose to build a repository of cyber risk literature, equipped with an NLP-powered search tool that can be easily used by researchers to find relevant materials. The first stage of this project involves identifying sources of literature, creating a program that gathers documents from those sources, and labeling the gathered documents. A databased will be built based on the collected information. On top of that, a web-based user-interface will be built to make it easier for researchers to query the database and see the results in a clear manner. In the second stage, as the database gets sizeable and becomes suitable for training and testing purposes, the labeling of new articles can be automated by natural language processing and machine learning techniques.

Smart Contract for Distributed Insurance

AA smart contract is a set of codes that execute business logics for contractual agreement in financial transactions. Our University of Illinois team has designed various business models for catastrophe risk sharing. In this project, students are expected to learn smart contract programming and build the first of its kind smart contract for distributed insurance.dd a little bit of body text

COUNTRY Financial Business Owner's Policy (BOP) Loss Predictive Model

For the insurance industry, the potential to understand customers and businesses using new dimensions represented by social and other online data can unleash significant new insights from both customer behavior and risk perspective. These insights can drive insurance automation, underwriting efficiency, and enhanced customer experience. The objective of this project is to develop and optimize the loss prediction models empowered by those insurtech innovations. This project is a real-life actuarial data science project provided by Carpe Data and COUNTRY Financial. Carpe Data is an Insurtech company that provides insurance companies with next-generation data solutions to gain a more in-depth insight into risks. COUNTRY Financial is a US insurance and financial services company that offers a range of insurance and financial products and services, including auto, home, life, commercial insurance, etc. We will perform tasks including, but not limited to:

- Actuarial loss modeling
- Feature engineering using NLP
- Unsupervised/Supervised Learning

Luyan Sales Data Analysis Project

Sales data provides businesses with valuable information on the profiling of their customers and thus has important implications on business problems, such as the improvement of customer satisfaction, retention rate, and sale efficiency. In this project, a dataset of sales records will be provided by Luyan Pharma, which has not been analyzed and utilized to its full potential for the purpose of gaining insights into the company's operations and customers and guiding business decision-making. Luyan is a pharmaceutical company headquartered in Xiamen, Fujian, China, with operations in health product R&D, manufacturing, and distribution. As an industry leader, it is exploring new ways of improving its services provided to its customers. This is an exploratory project, and the tasks will be performed including but not limited to

- Data wrangling
- Feature engineering using NLP
- Supervised/unsupervised learning

Insurtech Innovation via Natural Language Processing (NLP)

For the insurance industry, the potential to understand customers and businesses using new dimensions represented by social and other online data can unleash significant new insights from both customer behavior and risk perspective. These insights can drive insurance automation, underwriting efficiency, and enhanced customer experience. The objective of this project is to develop NLP models empowered by those insurtech innovations.

This project is a real-life actuarial data science project provided by Carpe Data. Carpe Data is an Insurtech company that provides insurance companies with next-generation data solutions to gain a more in-depth insight into risks. COUNTRY Financial is a US insurance and financial services company that offers a range of insurance and financial products and services, including auto, home, life, commercial insurance, etc.

We will perform tasks including, but not limited to:
- Data cleaning and imputation
- Feature engineering using NLP
- NLP: Summarization, Topic Modeling, Named Entity Recognition, Question Answering, etc.

The Three Pillars

Research Projects

The I-Risk Lab is intended to facilitate integration of discovery-based learning experience with state-of-the art academic and practical research in all areas of risk analysis and advanced analytics. Faculty and students collaborate to solve business oriented research problems. Students will work on their research, communication and presentation skills.

Seminars

The I-Risk Lab hosts seminars throughout the year featuring leading experts in the fields of actuarial science, finance and risk management to educate students about industry trends. These seminars also give the opportunity to students to engage with the speaker.

Mini-Symposium

The I-Risk Lab will host a mini symposium in Chicago on May 16, 2019 to showcase its research findings as well as to provide a venue for exchanging research ideas with academics and practitioners in the actuarial and financial services community. Students that did a research project in the I-Risk Lab will participate in a poster session at the mini symposium to present their project.

CAREER FEATURES

Full-Time Positions

Matthew Jalnos
Zurich North America
Senor

Sara Lagvankar
PricewaterhouseCoopers
Senior

Michelle Liu
PricewaterhouseCoopers
Senior

Faith Skrzelowski
Aetna
Senior

Drew Taylor
PricewaterhouseCoopers
Senior

Rida Sheikh
Deloitte Consulting
Senior

Julia Wagus
Allstate
Senior

Henry Wu
Oliver Wyman
Senior

Brandon Yuan
Oliver Wyman
Senior

Yi Yuan
Ernst&Young
Senior

Summer Internships

Jonathan Garcia
Milliman FRM
Junior

Luke Janikowski
Oliver Wyman
Junior

Sophie Jiang
Voya Financial
Senior

Naomi Logan
AXIS Capital
Sophomore

Luke Miller
IAT Insurance Group
Junior

Anna Schulz
Cigna
Sophomore

Lisa Silverstein
Allstate
Sophomore

Daniel Polites
State Farm
Sophomore

Eunjeong Ro
AXIS Capital
Graduate Student

Dhivyaanganaa Venkataraman Sekar
Willis Towers Watson
Graduate Student

SPRING GRADUATES

Carlos Bautista
Eric Bayer
Abhiudaya Bhalla
Robert Bookland
Jiacheng Chen
Tom Curcio
Grant Dexter
Domenic Di Girolamo
Jamie Dibiase
Martha Dixon
Steven Dong
Joanna Geng
Amy George
Ruiyu Guo
Marianna Hemmen
Runyan Hou
Matthew Jalnos
Sophie Jiang
Aryan Kathuria

Filip Klapacz
Shreya Kodati
James Lawrence
Manchung Lee
Shuxiang Lei
Amanda Leonarto
Jasmine Liao
Sandy Lin
Michelle Liu
Carson Lowery
Maria Manoukarakis
Evan March
Hannah Pauza
Luke Pontikis
Zach Schiffman
Rida Sheikh
Faith Skrzelowski
Rex Smithberg
Carina Su

Min Sung
Sally Sutanto
Matthew Szachta
Drew Taylor
Payton Thweatt
Brandon Utomo
Julia Wagus
Runzhou Wang
Diana Wronka
Henry Wu
Ciayi Xi
Nick Yanello
Jeffrey Yao
Brianna Yoon
Brandon Yuan
Xijia Yuan
Yi Yuan
Krystal Zhao
Guanyu Zhou
Kexin Zhou

Congratulations!

SENIOR SPOTLIGHT

Julia Wagus

What is your major?
Actuarial science, no double major or minors.

Do you have any post-graduate plans?
After graduation, I'm going to be working at Allstate starting in August. I am going to be hybrid in their Chicago office.

What is something you will miss about U of I?
It might be the ASC semi-formal back in my freshman year. They stopped having those for a while because of COVID, but it was really fun. They held it at SOMA which was a place downtown that's no longer open. I got to hang out with people I don't normally hang out with because my friends weren't there and it was a really fun night. It went to the early hours of the morning. We just ended up hanging out, playing games and it was a really fun time.

How has ASC impacted you?
It really helped me to learn more about the profession. Despite the fact that I entered with an actuarial science major, I didn't really know a lot about it when I started. There were still a lot of mysteries. ASC has so many resources to learn what actuarial science is and what paths you could go down. There are so many people who will help you. So that's what I really like about ASC, but of course I already mentioned the people as well.

They're so great. It's nice having people you know in your classes, especially because if you talk to other people, they might not know what an actuary does. It's nice that there are people who know what you're going through and go through the exams and just get it.

What do you wish you could have done differently if you could change something?
During the COVID semesters when things were very isolated, I probably would have reached out a little bit more to other people. Getting used to the virtual environment was a little weird at first and it felt a bit awkward to reach out to people, especially in the professional environment. I was at an internship at the time and so it's not like you are next to someone and can ask them questions. I think if I had reached out to people a bit more during that time it would have helped to alleviate some of the stress and isolation we were going through. Now, a year later, we're all used to this so it's not weird anymore to call someone on Zoom or something like that. But a year ago, that would have felt weird.

How do you plan on keeping involved with the university as an alum?
I know that there are a lot of ways to keep updated with what is happening at the U of I; there's the alumni newsletter and you can even get the emails if you want, stuff like that. I like to know what's going on with ASC. There have been so many developments in the past four years that I've been here and I'd love to continue hearing about it. There are also some events available to alumni. For example, the symposium is still available to alumni and I think those types of resources are great ways to stay in contact.

ILLINOIS BASKETBALL

The Fighting Illini's basketball season ended in the Round of 32 in March Madness this year. No. 4 Illinois suffered a tough loss to No.5 Houston 68-53 and did not manage to advance to the Sweet Sixteen. However, the team had plenty of success this season despite being bounced out of the tournament early for the second year running. The Fighting Illini were able to capture a Big Ten Championship for the first time since 2005. Basketball fans had plenty to cheer for while they watched players accomplish individual feats. Junior Kofi Cockburn broke the school record for double-doubles in a career with 45 and became a First-Team All-American. 5-year senior Trent Frazier also established himself on the Illinois all time scoring list this year with 1,794 career points.

The starting lineup for the Illini will be shaken up dramatically next year. With seniors Da'Monte Williams, Trent Frazier, and several others leaving the university, we will likely see a whole new starting roster in the 2022-23 season. Sophomore Andre Curbelo announced he was entering the transfer portal this year. Illinois hopes that younger players will be able to fill the shoes of the players who elevated the team over the last 3 years to a winning program and maintain the momentum that has brought the Fighting Illini back to the NCAA as a national contender.

ACKNOWLEDGEMENT

Special thanks to...

Claudia Freiji   Julia Wagus
Shreya Kodati   Xiaochen Jing
Naomi Logan   Frank Quan

Actuarial Alumni Community

2021-2022 ASC Executive Board

Top Row (left to right): Daniel Polites, Naomi Logan, Luke Janikowski, Carl Ritacco, Sara Lagvankar, Anna Schulz
Bottom Row (left to right): Michelle Liu, Henry Wu, Drew Taylor, Andrea Wilcox, Shreya Kodati, Sophie Jiang