The university has increasingly returned to in-person teaching, though we still keep offering asynchronous online courses, in addition to face-to-face sections. Besides learning in classrooms and/or online, CSE students have also been increasingly involved in in-person curricular and extracurricular activities such as the Capstone Showcase, the ACM student programming contests, and the cyber defense competitions.

The BA CS program was officially launched in Fall 2021. There are already 227 students in this program by Fall 2022. The Speed ACM also has their record number of student members in AY 22-23, including both BS CSE and BA CS students.

CSE faculty have kept receiving new grants from both the federal agencies and industry. Besides awards received from the NSF, NSA, and DRAPA, several CSE faculty have worked on industry projects funded by local and regional companies such as LGE and KU Services, GoodMaps Inc, and QinetiQ Inc.

CSE undergraduate and graduate students have won distinguished awards in UofL and beyond. Christopher Trombley, a CSE junior with a double major in mathematics won the 2022 Barry Goldwater scholarship. He will join the University of Chicago for his Ph.D. this fall. In addition, 12 CSE students have won a variety of awards in our annual award ceremony in April 2023. We are very proud of all their achievements.

**UofL Received the NSF CyberCorps SFS Award – First in Kentucky**

Dr. Wei Zhang was awarded over $3.4 million through the CyberCorps Scholarship for Service (SFS) program by the National Science Foundation in January 2023. This remarkable achievement marks the first time Kentucky has received the prestigious CyberCorps SFS grant, presenting tremendous opportunities for students in Kentucky and beyond to pursue advanced cybersecurity education and enhance their skill sets. The University of Louisville’s program, titled “Cybersecurity Talent Development in Kentucky,” aims to train a diverse group of 20 master’s students in exceptional cybersecurity competencies, enabling them to enter the government workforce with confidence.

Dr. Adel Elmaghraby, UofL Speed School of Engineering’s Director of Industrial Research and Innovation, Computer Science and Engineering, is serving as Co-PI. Dr. Adrian Lauf, Associate Professor, and Dr. Pamela Thomas, Teaching Assistant Professor, both in Computer Science and Engineering, are serving as senior personnel. The grant officially commenced on January 1 of this year and is expected to continue until 2027, providing a substantial timeframe for the program’s implementation and impact.
CSE Honors & Awards

John H. Simester Award
The award is given to the Computer Science and Engineering program graduate who has attained the highest cumulative scholastic standing in the Master of Engineering program at the J. B. Speed School of Engineering.

Michael Bramer

Raymond I. Fields Award
The award is given to the Computer Science and Engineering graduate who has contributed the most to the department and school in leadership and service.

Collin Dewey

ACM Distinguished Student Award
The award is given to honor a CSE student who has made a significant contribution to the student chapter of the Association for Computing Machinery.

Grace McClurg

CSE Master of Science Award
The award is given to the Computer Science graduate who has attained the highest cumulative scholastic standing in the departmental Master of Science program.

Gregory Streever

CSE Arthur M. Riehl Award
The award is given to a graduate/professional student with excellent academic performance and contributions to the department activities. The award is given in recognition of Professor Riehl who retired after 40 years of service as a faculty member (1959 – 1999) including 10 years as department chair (1977-1987).

Lucas Camino

CSE Outstanding Undergraduate Award
The award is given to a CSE undergraduate student who demonstrates excellence and potential for future achievements. The recipient is selected by the CSE faculty.

Grace Goff

IEEE Outstanding CSE Student Award
The IEEE Louisville Chapter honors two outstanding students upon the recommendation of CSE faculty.

Dedra Dixon
Emily Dodd

BACS Outstanding Undergraduate Award
This award is given to a Bachelor of Arts CS student who demonstrates excellence and potential for future achievements.

Madison Arnott

Outstanding Online MS CS Award
This award is given to an online Master of Science CS student who demonstrates excellence and potential for future achievements. The award is to be delivered electronically to the recipient.

Katherine Linzy

Gwong Sun Scholarship
The scholarship is awarded to an undergraduate student in CSE with an outstanding academic record and potential for achievement in their professional career. The award is given in honor of Dr. Gwong Sun who joined the Speed School faculty in 1978 and served with dedication until his death in 2003.

Sidharth Sundar

CSE Doctoral Award
The award is given to a Computer Science and Engineering doctoral student selected by the CSE department. Priority is given to those pursuing academic/research careers.

Fadoua Khmaissia

Dr. Sabur Baidya received the Jon Rieger Seed Grant from UofL EVPRI for the proposed project on “Collaborative Multimodal Sensor Fusion with Edge Intelligence for Connected and Autonomous Vehicles”. More details about this can be found here: https://engineering.louisville.edu/seed-grant-funding-for-research-projects/

Computer Science and Engineering Assistant Professor Dr. Sabur Baidya recently spoke about robotics and advanced manufacturing and other research on the Peggy Smedley Show. You can take a listen to the podcast online at: https://peggysmedleyshow.com/advanced-manufacturing-and-robotics

Dr. Baidya and his research group have made significant advancement in developing a digital twin for safety-critical robotics. Using a real-world 7-DOF Franka-Emika-Panda robotic arm and Gazebo simulation along with edge computing and, his group developed a sophisticated adaptive control for uncertain environments. The latest work on this is accepted for publication in the IEEE International Conference on Robotics and Automation (ICRA) 2023 (Ranked #1 Robotics engineering conference) and will be presented in London June 2023.

Dr. Baidya is currently serving as the chief guest editor for MDPI Sustainability Journal Special Issues on Networked Electric Vehicles for Green Intelligent Transportation (https://www.mdpi.com/journal/sustainability/special_issues/65B0D95BRS). He is also appointed as chief guest editor for MDPI Sensors Journal special issue on Vehicle-to-Everything (V2X) Communication Networks (https://www.mdpi.com/journal/sensors/special_issues/Q4502K1SUS). Dr. Baidya also served as Track Co-Chair for the The 38th ACM/SIGAPP Symposium On Applied Computing (ACM SAC 2023) for the IoT and Edge Computing track (https://sites.google.com/view/sac2023ie).

Ph.D. student Narges Golmohammadi working under the supervision of Dr. Baidya, received the competitive SIGBED student travel award to attend the CPS-IoT Week 2023 (https://cps-iot-week2023.cs.utsa.edu/) in San Antonio, TX. This will help her meeting with eminent researchers in the field and help in her contribution in the wireless communication pertaining to the CPS and IoT.
The Knowledge Discovery & Web Mining Lab has recently celebrated the graduation of 4 PhD students, supervised by Prof. Olfa Nasraoui. The students are Sami Khenissi (who is now research scientist at Meta), Aneseh Alvanpour (now Machine Learning modeler at Discover Networks), Mariem Boujelbene (now Machine Learning Engineer at LinkedIn), and Khalil Damak (now Applied Scientist at Amazon).

Prof. Olfa Nasraoui and a team of PhD students from the Knowledge Discovery & Web Mining Lab, were thrilled that their paper got accepted in the Research Track of ACM KDD 2022 conference, for which the acceptance rate is notoriously low. The title of the paper is “Debiasing the Cloze Task in Sequential Recommendation with Bidirectional Transformers”. This paper presents new theoretically grounded and rigorously evaluated, Deep Learning algorithms in Fairness in AI, which propose changes to transformer networks. Transformers form the backbone of Large scale Language Models (LLM) which drive ChatGPT.

The Knowledge Discovery & Web Mining Lab celebrated the great news that alumni, Dr. Esin Saka (Lead Applied Scientist at Microsoft), has won the Alumni Professional Award in Computer Science and Engineering and was thrilled to host her visit to attend the Awards ceremony and visit with the lab. Dr. Saka also gave a well attended talk in the CSE Department titled “Life After Ph.D. - An AI Scientist’s View from the Trenches”.

The Knowledge Discovery & Web Mining Lab celebrated the great news that Kyle Spurlock was selected for both the Alfred Chen award and the Alumni award in Spring 2023.

As with previous years, Prof. Olfa Nasraoui has been evolving the content in the Web Mining course to reflect the very fast developments in the world of AI, many of which have been driven by new models for text and natural language processing. Some changes include new lectures and hands-on materials on Large Scale Language Models (LLM) which are the backbone for ChatGPT.

Prof. Olfa Nasraoui and Co-PI Tom Tretter from CEHD have had another successful summer and academic year school visits (see photo below with Kyle Spurlock, CSE Masters student, an RET graduate student mentor on a school visit to Henry County High School in KY), as part of the NSF funded Research Experience for Teachers (RET) site where teachers from the state’s high schools and middle schools participate in an authentic research experience and curriculum translation, in Big Data and AI with human impact.

Prof. Olfa Nasraoui has been leading a large team of faculty, staff and administrators as part of the NSF funded project ATHENA (Advancement through Healthy Empowerment, Networking, and Awareness) to change institutional processes using evidence-based and data driven interventions ranging from a new comprehensive faculty search and recruitment process to a new faculty mentoring program comprising mentoring circles, networked faculty development workshops, and a new team-based faculty launch mentoring program, all of which will be expanded to all faculty at the conclusion of the project.

Prof. Olfa Nasraoui has continued mentoring several undergraduate students, over the last year, both as part of the NSF REU site led by Profs. Wei Zhang and Nihat Altiparmak, and independently as part of her lab research. One of the past REU students is Kyle Spurlock, who is now a graduate student researcher in the Knowledge Discovery & Web Mining Lab. Other undergraduate student researchers in the lab include Grace McClurg and Sarah Cullop, currently undergraduate students in CSE.

Huan Liu, and his PhD advisor Dr. Hui “Harry” Zhang had a research paper accepted in the premium visualization conference (EuroVis 2022), and the paper was published in the prestigious journal, Computer Graphics Forum.


The research uses the combination of computer graphics, novel visual interface, and geometric computing to help understand mathematical 4D structures and their underlying topologies.
Dr. Juw Won Park’s R15 was funded by NIH NIGMS (National Institute of General Medical Sciences) as a sole PI for the amount of $460,156. The budget period is from 9/21/2021 – 9/22/2024. This is his second R15 award from the NIH/NIGMS institute.

Over the past two decades, studies have discovered a special form of mechanism that produces a circular form of RNA (circRNA). The purpose of this research is to identify and characterize translated circRNAs using next generation sequencing technology.

This research will provide researchers with critical information regarding the translated circRNAs in existing sequencing datasets, in addition to enhancing research experiences in multi-disciplinary bioinformatics research among college undergraduates at the University of Louisville.

- Roman Yampolskiy has co-authored an article for the Time magazine on Uncontrollability of AI:
  https://time.com/6258483/uncontrollable-al-agi-risks/
- Yampolskiy’s work has also been features in IFLscience:
  https://www.iflscience.com/if-we-re-living-in-a-simulation-a-computer-scientist-has-a-plan-to-escape-66235
- Forbes:
- Popular Mechanics:
  https://www.popularmechanics.com/technology/a43402092/how-to-escape-the-simulation/
- Yampolskiy has delivered the Menard Family Lecture at the Center for the Free Enterprise.
  https://www.youtube.com/watch?v=M9YZOSLAFgk&ab_channel=UOFLCOB