

DR. MOEZ FAROKH Nia HAMEDANI
Assistant Professor

DR. LAKSHMI IYER
ISSCM Department
Head & Professor

CUTTING Edge

How one Bryan School department continues to innovate its curriculum in the face of A.I., landing a coveted Google cybersecurity grant in the process

When Google announced a second round of \$1 million grants in June to fund cybersecurity clinics at universities across the nation, only one institution in North Carolina made the cut – UNCG’s Bryan School of Business and Economics. The grant was a significant feather in the cap for the School’s Department of Information Systems and Supply Chain Management (ISSCM), though a fitting one given its continuous innovation and desire to push curricular boundaries, not just for its more than 200 students pursuing cybersecurity concentrations, but in growing areas such as generative artificial intelligence for business and more.

The Spartan CyberGuardian Academy

The new support from Google’s Cybersecurity Clinics Fund will allow the Bryan School to establish a ground-breaking consulting center with two purposes: teaching students the latest cybersecurity and AI skills and providing those services to under-resourced community organizations and businesses. Similar to how law or medical schools offer free community clinics, the Spartan CyberGuardian Academy will help protect vulnerable organizations – such as schools, small businesses and nonprofits – from cyber-

attacks. Expected to open in January, the clinic will train more than 870 people over the next six years, including undergraduate and graduate students as well as high school and community college participants. Together, the students will work with 174 nonprofits and businesses that would otherwise not have resources to protect their digital assets.

“This not only puts us on the national map, but it aligns very closely with our vision to establish our department as a leader in innovative education, cutting-edge research and impactful community engagement,” says Dr. Lakshmi Iyer, ISSCM chair and co-PI for the grant. “It’s a great opportunity for our students to be engaged with the community while gaining real-world experience. At the same time, community organizations benefit because we can help them evaluate their infrastructure.”

The grant is just part of an overall noteworthy year for the department as it adapts its programs to meet today’s business needs. This fall, ISSCM has added three new graduate concentrations and graduate certificates in Generative AI for Business, Cloud Computing and Security Analytics, and Supply Chain Analytics. The programs are not only leading-edge but also reflective of lasting change in how businesses operate, Iyer said.

Cybersecurity is one of those growth areas. According to the World Economic Forum’s 2024 Global Risks Report, cyber insecurity is one of the top 10 global risks over the next decade. Currently, there are nearly 450,000 open cybersecurity jobs in the U.S, including 13,251 in North Carolina, and demand for cyber professionals is projected to grow 32% by 2033.

To help meet this need, the grant will ensure accessible, free training for all students, including those from underserved communities, says Dr. Moez Farokhnia Hamedani, assistant professor and PI on the grant. Companies want to hire people who have not only theoretical knowledge but also certain certifications and real-world experience, he added. “So the knowledge and experience gained by these individuals will not only positively impact their career paths but also enhance the overall quality of cybersecurity in our region.”

Generative AI is another sea change that will have far-reaching impact on business, and students specializing in this area will now be able to access the expensive, high-powered computers needed for this field in the new cybersecurity clinic. “Everyone’s profession is going to be affected in some way by AI,” says Dr. Al Salam, professor and co-PI on the grant. Recent studies of online job sites such as Indeed have found a 60% increase in jobs that have some type of generative AI component, he said. “Companies are looking for professionals who are quite familiar with the use of generative AI, particularly within the context of their professions, and who are able to use this technology really well.”

An Innovative Curriculum

With its new concentration in generative AI for business – one of the first of its kind nationwide – the department will train students in this leading-edge technology that mimics how human beings operate, learn and make decisions. It’s important students understand everything from how to write AI prompts with necessary context to how to evaluate the ethical use of the technology. Courses range from how to use AI to be more productive in business to more specialized concepts such as machine learning, big data analytics and neural networks.

In addition to AI, many organizations are moving toward cloud computing to save investments in server space. While many universities have program components on cloud computing and separate courses on cybersecurity and analytics, the new concentration in the Bryan School marries the two. “Students can now be trained to go into companies and provide expertise and professional direction on how to take advantage of the data analytics to make systems more secure,” Salam said. The department will also offer a new concentration and certificate in supply chain analytics to help students learn to analyze supply chain data and use it to make informed decisions – a process that is all the more needed after the effects of COVID-19 on the world’s supply chain.

To staff the new concentrations, new faculty will partner with colleagues who have already been publishing in top-tier journals and working with doctoral students on research. Innovations like these have contributed to the department being named one of the Top 50 Best Online Graduate Computer I.T. Programs in the Nation by U.S. News & World Report in 2024. “It’s exciting to see how our department is committed to being on the front line of embracing these important changes,” Farokhnia Hamedani said. “These are all areas of critical growth,” Iyer added. “We really want our students to know what the landscape is and where there are new opportunities.” ■

“Everyone’s profession is going to be affected in some way by A.I.”

DR. AL SALAM
Associate Professor

LEARN MORE go.uncg.edu/bbr_cutting_edge