University College Dublin
School of Computer Science

CSNEWS

CS IN THE FIGHT AGAINST
COVID-19

University College Dublin
School of Computer Science

WELCOME

A MESSAGE FROM THE HEAD OF SCHOOL

Welcome to the first issue of our new UCD School of Computer Science magazine, *CS News*. The magazine brings the latest news from around the School to our students, alumni, collaborators, staff, friends, and the worldwide computer science community.

In our lead article, Professor Gregory O'Hare describes the COMBAT project. COMBAT is developing novel software to assist in the understanding and management of the spread of infectious diseases, including COVID, in Ireland. Next, Professor Barry Smyth explains his work on analysing and visualising COVID-19 data.

The School's latest European projects are introduced, including work on personalised medicine, life sciences data, law enforcement, and analysis of the British Library's book collection. Highlights of national funding include development of the latest artificial intelligence (AI) techniques for sustainability and health applications.

The magazine catches up with School researchers who are in the news, alumni working in industry, and students on internships. We have a spotlight piece on Professor Eleni Mangina who is using augmented and virtual reality in education. On the next page, we find out about CeADAR, the School's research centre for applied AI and data analytics. Also covered is our work on bringing Computer Science to the Leaving Certificate, commencement of new educational programmes in UCD, and establishment of our Centres for Research Training. We wrap up the magazine with the latest community news, including the latest books authored by UCD CS staff.

Many thanks to Rupert Bowen who was the driving force behind the magazine, to Léan Ní Chléirigh for writing and editing many of the articles, and to Assistant Professor Colm Ryan for his support and guidance.
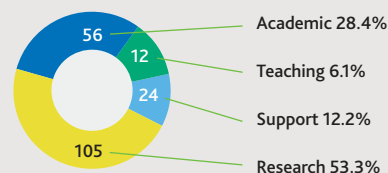
Please join our email list at ucd.ie/cs so that you get future editions of the magazine hot off the presses.
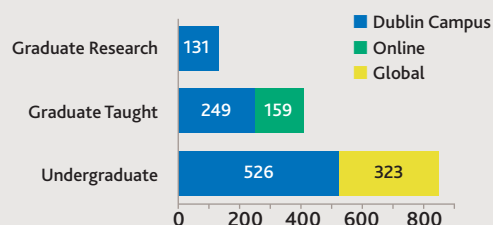
Now, kick back, read on and enjoy!

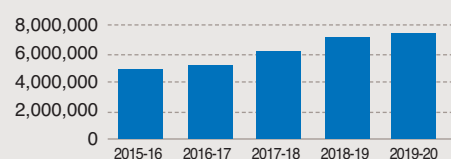**Assoc. Prof. Chris Bleakley, Head of School**
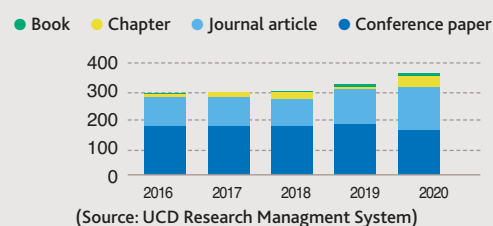
THE SCHOOL IN DATA

STAFF NUMBERS

- 56
- 12
- 24
- 105

Academic 28.4%
Teaching 6.1%
Support 12.2%
Research 53.3%

STUDENT NUMBERS 2020/21

Legend: ● Dublin Campus ● Online ● Global

Graduate Research	131
Graduate Taught	249 / 159
Undergraduate	526 / 323

(Axis: 0, 200, 400, 600, 800)

RESEARCH EXPENDITURE €

(Axis: 0, 2,000,000, 4,000,000, 6,000,000, 8,000,000)
Years: 2015-16, 2016-17, 2017-18, 2018-19, 2019-20

FIELD-WEIGHTED CITATION IMPACT 1.74

PUBLICATIONS

Legend: ● Book ● Chapter ● Journal article ● Conference paper

(Axis: 0, 100, 200, 300, 400)
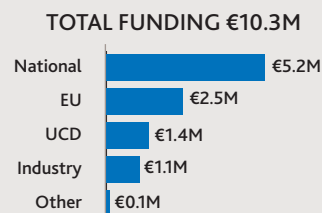Years: 2016, 2017, 2018, 2019, 2020

(Source: UCD Research Managment System)

INDUSTRY COLLABORATION 2020

55 publications co-authored with industry
10 Invention Disclosures
1 Patent

UCD CS FUNDING BY SOURCE 2020
TOTAL FUNDING €10.3M

National	€5.2M
EU	€2.5M
UCD	€1.4M
Industry	€1.1M
Other	€0.1M

CS IN THE FIGHT AGAINST
COVID-19

Professor Gregory O'Hare is leading an interdisciplinary team of researchers from UCD to create a world-first, population-scale Agent-based Modelling (ABM) solution to improve our understanding and management of COVID-19 and other infectious diseases in Ireland.

COVID-19 has exposed weaknesses in the power of existing global epidemiological models to help us to understand the transmission of infectious disease in Ireland. Policy makers need better models to help with decisions about containment measures, vaccine roll-out and controlled sectoral and/or geographic return to work and school.

The COMBAT project uses an innovative approach based on scientifically advanced modelling techniques taking account of the environment within which the disease exists in Ireland, modelling societal, geographical and socio-economic dimensions.

It will deliver a national computational resource for experimentation and modelling of infectious diseases within Ireland. An experimental "sandbox" (or dashboard) will help policy makers to balance risk to life and protection of the economy by examining the effects of alternative policies for lockdown, compliance, and vaccine roll-out. The new modelling resource will be adaptable, extensible and interoperable, facilitating articulation of specific future disease characteristics, cogent diverse data streams and prevalent government policies. The UCD CS project team includes Assoc. Prof. Rem Collier, Asst. Prof. David Lillis, Asst. Prof. Fatemeh Golpayegani, Asst. Prof. Vivek Nallur and Asst. Prof. Lina Xu.
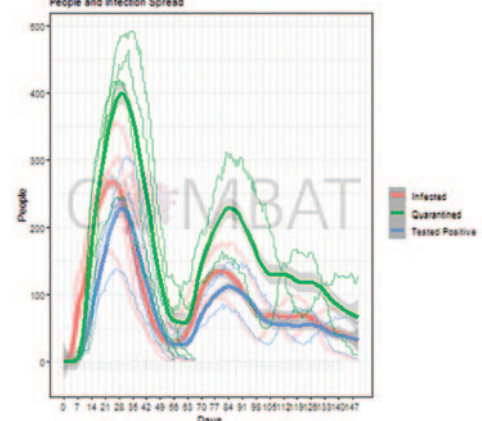
COMBAT

Current Covid Burden (up to 24/01/21)
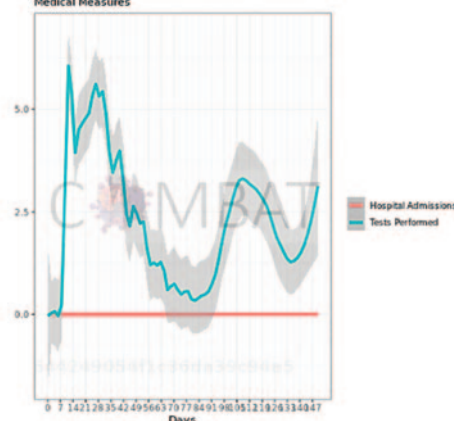
DATA IN A TIME OF
COVID

Professor Barry Smyth's research is usually focused on machine learning and recommender systems but as the pandemic took hold, he found himself using data science techniques to explore different aspects of the pandemic at home and abroad.
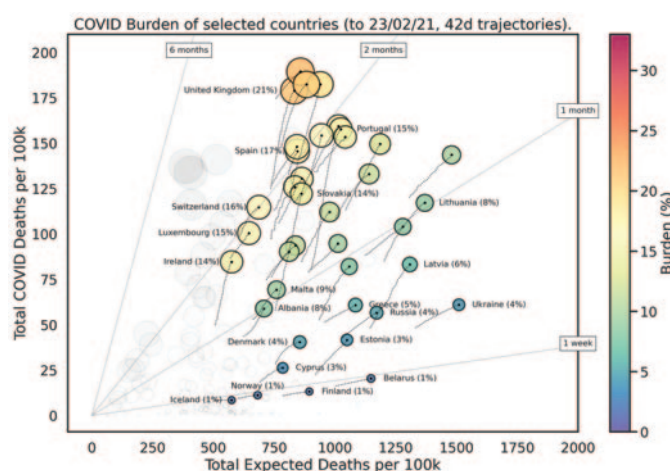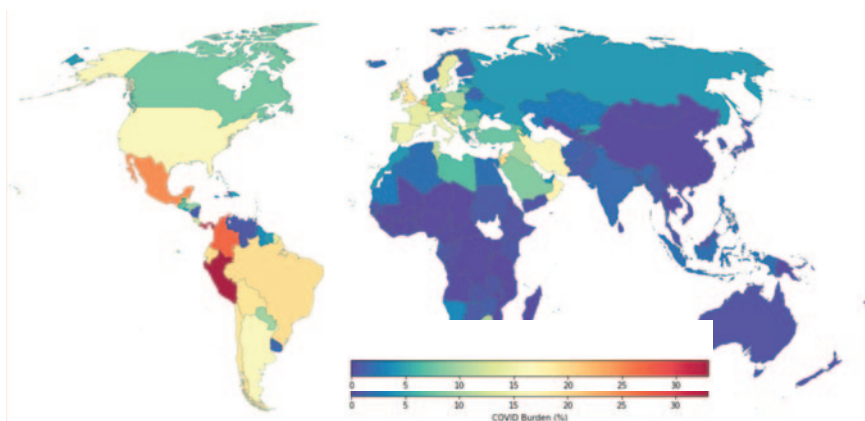
There are two main themes that Barry has explored with his COVID research. One concerns the development of risk models to help the general public to better understand the level of infection risk they face, so that they can better calibrate their behaviour. For instance, instead of the usual focus on metrics such as the number of daily cases — easy to understand but difficult to translate into risk — Barry developed a technique for predicting the current exposure risk. Briefly, *exposure risk* is an estimate of the likelihood that a given contact will be infected, based on an estimate of the number of undetected infections in a given location, which in turn depends on factors such as cases and testing rates. In Ireland the exposure risk peaked at about 0.03 during the most recent wave; i.e. one in every 30-35 people were estimated to be infected but undetected.

A second theme in Barry's work has focused on novel metrics for comparing the performance of countries during the pandemic. For example, rather than comparing countries using metrics such as the number of fatalities per capita, Barry developed an alternative measure — the *COVID burden* — which is the number of COVID fatalities as a fraction of the expected number of deaths during the same time-period. This not only normalises for population but also for *all-cause mortality rates*, which can vary significantly from country to country, because they depend on factors such as population demographics, access to healthcare, security, poverty levels etc.

The first graph above shows the current COVID burden for countries around the world. In it, we can see how COVID deaths account for 15-30% of the expected all-cause mortality in some of the hardest hit countries in Central and South America, which contrasts with much lower burdens (<5%) across Africa, Asia, and Oceania. In the second visualisation, each country is plotted according to its COVID deaths per 100,000 of population (y-axis) and its expected deaths per 100,000 of population during the same time period (x-axis). The size and colour of the markers indicate a country's

COVID burden, and its 'tail' shows its trajectory over the preceding six weeks. The highlighted countries, in Europe, show how most have expected death rates in the region of 500-1500 deaths per 100,000 of population (a 3x range from lowest to highest) but their COVID deaths vary from 10-200 deaths per 100,000, while the COVID burden varies from 1% (Iceland, Norway, Finland, and Belarus) to over 20% (Slovenia, the UK, and Belgium), a 20x range from lowest to highest. Even within Europe countries have experienced huge variation in the toll that COVID has taken from their populations.

What started out as a series of blog posts with the general public in mind has evolved into a more formal research effort as several aspects of Barry's work have been recently published in the journal of *Digital Government: Research and Practice (ACM)*. Many of the techniques and visualisations that Barry has developed are now playing a central role in this year's Data Science in Practice module, offered to our third year Data Science students.

EUROPEAN FUNDING

In 2020 the School was awarded funding from the European Commission through its Horizon 2020 and Interreg instruments, amounting to €2.58 million.

In the area of healthcare, Asst. Prof. Andrew Hines is a member of the H2020 project PRECISE4Q, which uses data-driven models to create personalised treatments for stroke.

Asst. Prof. Colm Ryan is a member of ELIXIR-CONVERGE, a pan-European project to manage life-sciences data involving 29 institutes in 22 countries. Security researchers in the School continue to collaborate with Law Enforcement Agencies (LEAs) to apply cutting edge research to real world problems. The team from the UCD Centre for Cybersecurity & Cybercrime Investigation were part of three successful H2020 projects in the area of security; Cheryl Baker as part of ILEANET, a sustainable network of LEA practitioner organisations from all over Europe and CYCLOPES, a practitioner network for fighting cybercrime; Cheryl Baker and Dr Ray Genoe as coordinators of INSPECTr, a shared intelligence platform for cybercrime investigation that will improve digital and forensic capabilities for cross-border collaboration.

Assoc. Prof. Pavel Gladyshev is a member of AIDA, which is creating a data analytics platform and related tools which will prevent, identify, analyse and combat cybercrime and terrorist activities.

Asst. Prof. Derek Greene is a funded collaborator on the €2.5 million ERC Advanced Grant led by Professor Gerardine Meaney, of the UCD School of English, Drama and Film. The five-year study will perform text analysis on nearly 36,000 books in the British Library Nineteenth Century Corpus, using big data to address key unanswered societal questions – such as how does migration impact on the cultural identity of both migrant and host communities in the historical long term?
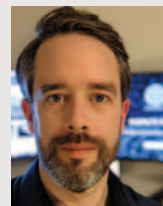

Andrew Hines *Colm Ryan* *Pavel Gladyshev* *Derek Greene* *Ray Genoe*

NATIONAL FUNDING

Assoc. Prof. Georgiana Ifrim is part of a UCD team which won funding from the Science Foundation Ireland AI4Good Future Innovator Prize for the GreenWatch project in collaboration with colleagues from the UCD School of Business, and Sustainable Nation Ireland. The project aims to develop AI-based methods to analyse and verify sustainability claims in company reports and thus improve the measurement of progress towards the United Nations' Sustainable Development Goals.

Two UCD CS projects were funded under the Disruptive Technologies Innovation Fund. Asst. Prof. David Lillis, in collaboration with industry partners Corlytics and Version 1, received funding for the TRANSPIRE project, to create a platform to combine human expertise with artificial intelligence to demystify laws and regulations, making it easier to do business while also protecting consumers. The research combines elements of natural language processing, machine learning and interpretable/explainable artificial intelligence. Prof. Tahar Kechadi and Assoc. Prof. Brian Mac Namee, with collaborators in Davra, Nova Leah, Dundalk IT and IBM, received funding for the project Medical Imaging Ireland. The project will deliver a platform offering and enabling technologies which can host, manage, process and analyse archived medical images. In other news, the School was also awarded five Irish Research Council Post Graduate Scholarships in 2020.

Georgiana Ifrim *David Lillis* *Tahar Kechadi* *Brian Mac Namee*

RESEARCHER
SPOTLIGHT
PROFESSOR ELENI MANGINA

Technology has presented educators everywhere with new opportunities to impart knowledge and help students to learn. In the last couple of decades alone, it has enabled teachers to make huge strides in the classroom. I am an advocate of the impact emerging technologies can have, especially in cases where online learning could become an educational dystopia. My research focuses on the impact and assessment of applied augmented reality/virtual reality (AR/VR) in education. There are a number of projects in my portfolio which will mature and deliver outcomes within the next two-to-three years. A previous research project, AHA (ADHD

Augmented), which focused on augmented reality educational tools for children aged 9-11 with a diagnosis of ADHD, has already indicated the positive impact of the intervention. ARETE (Augmented Reality Interactive Educational System) focuses on improving students' performance in literacy, STEM subjects and enhancing positive behaviour in the classroom. The Fairy Tale Science (FANTASIA) project aims to bring an augmented holistic approach to teaching science concepts. The project "Promoting Digital Higher Education by Introducing Immersive Learning into Educational Studies" (XR4Ped) aims to contribute to

digitisation in higher education in general and the promotion of XR-based immersive learning in particular for the next three years.

This is an incredibly exciting time for education. Technology has been growing at a speed faster than society's acceptance, but given the pandemic's impact, technology and society are adapting. The bigger vision is "Education for all". It is about education outside the previous "norm" and outside the standardised tests. Not everybody learns the same way. We learn by doing things, by using all our senses. It's time we bring this into our students' life.

AWARDS AND IMPACT

Assoc. Prof. Georgiana Ifrim, PhD Student Abeba Birhane, MSc Alumna Niamh Donnelly and PhD graduate Dr Claudia Orellana-Rodriguez all featured in Silicon Republic's "20 Women Doing Fascinating Work in AI, Machine Learning and Data Science".

In June 2020 Professors Mark Keane and Barry Smyth were awarded Best Paper at the 28th International Conference on Case-Based Reasoning (CBR) for: "Good Counterfactuals and Where to Find Them: A Case-Based Technique for Generating Counterfactuals for Explainable AI (XAI)". UCD has won more best papers at this

long-running conference series than any other institution.

Asst. Prof. Dr Madhusanka Liyanage (Ad Astra Fellow) was Runner-Up in the 2020 IEEE ComSoc Outstanding Young Researcher Award for EMEA. This is a great honour and it is the first time that this award has been given to an Irish-based researcher. Asst. Prof. Liliana Pasquale won the Most Influential Paper Award at the 28th IEEE International Requirements Engineering Conference (RE'20) in Switzerland, in recognition of her paper entitled "Fuzzy Goals for Requirements-Driven Adaptation". The paper,

published ten years ago, proposes the use of fuzzy logic to formalise and monitor requirements which can be adapted at runtime.

Asst. Prof. Catherine Mooney and Asst. Prof. Brett Becker won a best paper award for their work "Investigating the Impact of the COVID-19 Pandemic on Computing Students' Sense of Belonging" at the SIGCSE Technical Symposium, as well as best poster award for "Exploring Sense of Belonging in Computer Science Students" at the ACM Conference on Innovation and Technology in Computer Science Education.
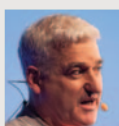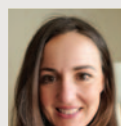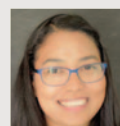
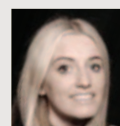*Mark Keane* *Barry Smyth* *Madhusanka Liyanage* *Liliana Pasquale* *Catherine Mooney* *Abeba Birhane* *Claudia Orellana-Rodriguez* *Niamh Donnelly*

CeADAR CENTRE FOR APPLIED AI AND DATA ANALYTICS

Image credit InvertRobotics

CeADAR is the National Centre for Applied Artificial Intelligence. The Centre is headquartered in UCD as part of the School of Computer Science and is a partnership with TU Dublin. Funded by Enterprise Ireland (EI) and the IDA, CeADAR has more than 90 member companies across a wide span of industry sectors and is one of 30 Digital Innovation Hubs across the EU focused on delivering AI services to industry. It is a one-stop shop for innovation and applied R&D in AI, Machine Learning and Data Analytics and provides:

- proofs of concept;
- market-ready solutions;
- investor-ready technology;
- support to find funding and investment;
- training programmes; and,
- ecosystem networking and consortium building in Ireland and Europe.

In November 2020, CeADAR was awarded gold accreditation by the European Big Data Value Forum. There are only 10 other gold members in Europe. The gold award recognises the maturity and impact of the Centre in AI innovation.

SOME EXAMPLES OF CeADAR'S RECENT SUCCESSES

- CeADAR secured EI funding for a new high performance computer (HPC) cluster called Leon. It has several nodes integrating Intel Xeon Gold CPUs, 768GB to 1.5TB of RAM and the latest NVIDIA A100 GPUs. The system has network-attached storage of half a petabyte. It will be used to support CeADAR's core work and will be available to companies as part of our CeADAR's test-before-invest service;
- CeADAR secured four EU Horizon 2020 projects in the past year: EUHubs4Data (€12m), InterQ (€9m), DIH-World (€8m), Human Centred AI Masters (€3.3m);
- over the past three years, CeADAR has been awarded 11 Marie Sklodowska-Curie Enterprise Ireland Co-Fund Fellowships (with a further four co-opted Fellowships). This

close partnership of Fellow/SME/CeADAR supercharges a company through its AI capability stages;

- in 2019 CeADAR won the NASA Space Challenge for a combined satellite/earth observation application with ground data to identify vulnerable populations in conflict zones; and,

- in 2020, in collaboration with Asst. Prof. David Lillis of UCD School of Computer Science, CeADAR was part of a successful €3m DTIF award to apply natural language processing to the analysis of financial regulatory documents. This follows on from an earlier DTIF €1m award in 2019 for a blockchain project for the secure tracking of global digital assets.

![University College Dublin – School of Computer Science]

IRELAND'S FUTURE SKILLS NEEDS

Cheryl Baker

The School is a member of two consortia which secured grants from the Higher Education Authority (HEA) aimed at building capacity to meet priority skill needs for Irish enterprises, society and the economy. Head of School, Chris Bleakley, is the lead on the €14m ADVANCE Centre for Professional Education. The ADVANCE Centre partners with eight UCD Schools, IT Sligo, TU Dublin and industry leaders from across the high tech sector to design and deliver a portfolio of courses addressing industry's future skills needs in the digital arena.

The UCD Centre for Cybersecurity and Cybercrime Investigation (CCI) is a partner in the €8.1m CYBER-SKILLS project, with CIT, IT Tralee, University of Limerick and TU Dublin. CCI has a long-standing relationship with the financial services sector, so it will focus its efforts on developing learning resources for this specific group, supported by its banking partners, AIB Bank, Barclays Plc and the Banking and Payments Federation Ireland.

The ADVANCE Centre and the CYBER-SKILLS project are funded by the HEA under the Human Capital Initiative (HCI) Pillar 3, Innovation and Agility.

TRAINING THE NEXT GENERATION OF COMPUTER SCIENTISTS

It's a very exciting time in Ireland for computer science education. Following a successful pilot, any school in Ireland can now offer Computer Science as a Leaving Certificate subject. Coinciding with this rollout, Asst. Prof. Brett Becker, in the UCD School of Computer Science, and his co-author Dr Keith Quille (TU Dublin) recently published the first textbook for the new subject, which is now being used in almost all of the schools across Ireland offering the subject.

Brett and Keith have significant experience in training second-level teachers to teach this exciting new subject. They also co-supervise PhD students who are conducting research in this rapidly developing area. Brett is taking on a new student this year, through ML-Labs, who will investigate how artificial intelligence is taught in schools in Ireland. Brett, Keith, and their students have been involved in delivering computing camps for several years to over 1,500 teachers and 11,000 students, at hundreds of schools in every county. In 2019 they, along with Asst. Prof. Catherine Mooney (UCD CS) founded SIGCSEire, the Ireland ACM SIGCSE (Special Interest Group on Computer Science Education) Chapter, which now has nearly 200 members including educators from primary, second and third levels, in addition to government and industry representatives.

Brett is also involved in the design and delivery of the new BSc in Computer Science, Mathematics and Education at UCD which leads directly to an MSc in Mathematics and Science Education. This programme is intended for those who want to become post-primary Computer Science and/or Mathematics teachers.

Suzanne Linnane was the Educational Consultant for the book, and is a graduate of the UCD Professional Diploma in Educational Studies (Computational Thinking). She teaches at Adamstown Community College in Dublin where she is pictured with some of her students.

COMPUTER SCIENCE FOR LEAVING CERTIFICATE

Speaking at the launch of the new book, Brett said: "This book is an important component of a nation-wide effort to make Leaving Certificate Computer Science a success. The successful study of computing at all levels is important for all people, not only for the empowerment of their personal and professional lives, but for the national society and economy".

CENTRES FOR RESEARCH TRAINING

The School is a partner in two Science Foundation Ireland Centres for Research Training.

ML-Labs' mission is to train industry-ready, academically excellent graduates who will lead the current and future transformation of industry, society, and science that machine learning is enabling. It is making good progress, having welcomed the first cohort of 24 PhD candidates to its three institutions – UCD, DCU, and TU Dublin - in October 2019 and a second cohort of 29 PhD candidates in September 2020. These candidates are progressing research on applications of machine learning from improving water desalination plants to identifying potholes, and developments in fundamental machine learning approaches in areas from network analysis to computer vision. The training programme includes:

- workshops on machine learning, communications, mental well-being, the law, and ethics;
- industry seminars from partners including Nokia Bell Labs, Accenture Labs, Microsoft, Colgate-Palmolive, Equal1, Huawei, Mastercard, and Aylien; and,
- collaborative development projects, including working with the USA National Institute of Standards and Technology and the Private Automated Contact Tracing research group from MIT on developing machine learning solutions for close contact identification as part of the Covid-19 response.

UCD is a partner in d-real along with Trinity College Dublin, Dublin City University, National University of Ireland Galway and TU Dublin. d-real is an innovative, industry partnered training programme that equips PhD students with deep ICT knowledge and skills across digital platform technology, content and media technology and their application in industry sectors.

Four UCD Schools are involved in the programme: Computer Science, Information and Communication Studies, Business, and Psychology.

Since September 2019, d-real has recruited 54 PhD students across the institutions, all with inter-institutional supervisory panels.

Current UCD Computer Science-based PhD projects are focussing on: accommodating non-native accents for spoken language interaction; improving accessibility for the deaf community through the use of a real-time translation avatar for Irish Sign Language; identifying the impact of augmented reality on concentration for students diagnosed with autism spectrum disorder; and, the impact of blended intelligence on people's experience of agency.

BOOKS PUBLISHED THIS YEAR

Fundamentals of Machine Learning for Predictive Data Analytics
Brian Mac Namee together with co-authors John Kelleher (TU Dublin) and Aoife D'Arcy from the company Krisolis, published a new edition of their textbook Fundamentals of Machine Learning for Predictive Data Analytics with MIT Press. The new edition contains revised text and questions in all chapters plus over 200 pages of new material on deep learning, reinforcement learning and unsupervised learning.

Computer Science for Leaving Certificate
Brett Becker has co-authored the first textbook for the new Computer Science Leaving Certificate subject (see page 8).

Poems that Solve Puzzles: The History and Science of Algorithms
Written by Chris Bleakley, and published by Oxford University Press.
The book tells the story of algorithms from their ancient origins to the present day, introducing readers to the inventors and inspirational events behind the genesis of the world's most important algorithms. Along the way, the book explains, with the aid of clear examples and illustrations, how the most influential algorithms work.

Cyber and Digital Forensic Investigations, A Law Enforcement Practitioner's Perspective
Features contributions from graduates of the UCD MSc in Forensic Computing and Cybercrime Investigation, based on their dissertations (major research projects). The book was co-edited by Asst. Prof. Nhien-An Le-Khac. It discusses the state of the art in incident response and digital forensics.

STUDENT INTERNSHIPS

Since 2018 our undergraduate students have had the opportunity to undertake an industry internship as part of their degree programme. Students typically spend five-to-six months working as employees of partnering companies, ranging in scale from small start-ups to large multi-nationals.

The work is always technical, typically involving software engineering or data science, but the host companies span multiple industries, including traditional IT firms but also food production, transport, finance, and business consulting. Our students have worked in companies such as Aer Lingus, Amazon, Cellusys, Dell, Ericsson, Informatica, Intel, Kerry Group, KPMG, SAP, Swoop and Workday.

2020 saw some unique challenges for the internship programme – our undergraduate interns were due to start in mid-March, just as the first national lockdown kicked in. Fortunately, our partner companies made enormous efforts to adapt the internships and the majority of our internships went ahead, albeit remotely.

In some cases, laptops were shipped to students while in others in-person bootcamps were rapidly moved online.

We are grateful to all of our host companies and hope that 2021 will prove a little more straightforward!

STUDENT EXPERIENCE

Surabhi Agarwal on her remote internship with Intel Movidius

"I interned at the Intel Movidius Advanced Architectures group which is a research group focused towards computer vision applications. I felt extremely lucky to be able to get the opportunity to work on multiple research projects throughout the course of my internship as well as publishing a research article. However, the most challenging part for me was to adapt to the remote working environment. Even though there were extremely challenging times and I learnt a lot of hard skills, the most important skill which remote working taught me was to be able to communicate my thoughts in a crystal clear manner within my team as well as the various business groups that I was working with."

Surabhi Agarwal, final year BSc.

ALUMNI NEWS

Niamh Donnelly MSc 2018

Niamh co-founded the AI start-up Akara Robotics which uses robotics and ultra-violet light to clean hospital wards, in February 2019. She won "Best Application of AI in a Student Project" at the Irish 2018 AI Awards. Akara is an example of how computer science graduates use deep technical expertise to assist in combating challenging social issues such as Covid-19. "I conducted a lot of research on the best Masters programmes available, and ultimately chose UCD as I felt they had the most interesting module choices and you had the autonomy to choose all the modules. I think that this was one of the best decisions I ever made in my career to date and I loved UCD. While at UCD, I had a great research project supervisor in [Assoc. Prof.] Brian Mac Namee. His encouragement and mentorship throughout the year gave me confidence and made me feel that I had something to offer in the field. I think we need to start embracing the idea that robotics and AI will be a normal part of life in the future. I think that these areas will be essential in tackling some of the world's biggest problems like climate change and global health issues. One of the areas now that is really exciting is space exploration. The idea that we can actually use robots to explore the surface of another planet or fly a drone in an atmosphere with virtually no density is fascinating!"

Peter Cahill PhD 2008

In April 2020, Apple acquired the AI voice technology company Voysis for an undisclosed amount, in order to help improve Apple's virtual assistant, Siri. Peter founded Voysis in 2012, having previously spent 15 years researching speech technology and conducting neural network research. The company develops technology to help digital voice assistants improve their understanding of natural language.

Cindy Murphy MSc 2011

Cindy is president and founder of Tetra Defense, an incident response and cyber risk management firm which helps clients recover from incidents like ransomware and wire transfer fraud. In January 2020, Tetra Defense closed a $3m series A investment round. The money will help the company expand.

COMPUTER SCIENCE SUPPORT CENTRE

"The tutor explained to me in great detail how to solve my problem and provided me with a new way of thinking. The Support Centre is really helpful!"
The Computer Science Support Centre (CSSC) has provided free tutoring for COMP modules since 2008. It is a popular resource supplementing the module demonstrators and teaching assistants. CSSC has 17 tutors covering 57 modules and 14 programming languages. On a typical day they will receive a dozen visits. Since the arrival of COVID-19, the CSSC has been operating online using a queuing and booking system. Students have 20-30 minutes with a tutor using Google Hangouts. Never the less, feedback ratings have stayed excellent despite the change of delivery. CSSC tutors are all experienced and highly rated teaching assistants who are UCD PhD students and CS graduates. Tutors are specially selected both for their knowledge and their ability to support students in their learning.

2020-2021 SEMESTER 1: STUDENT RATING OF CSSC

Very good   Good   Excellent
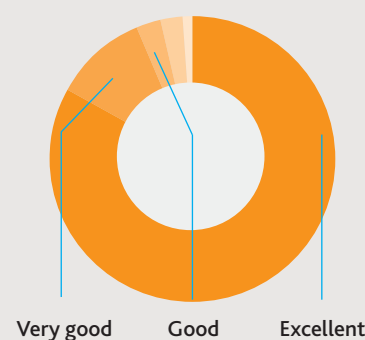
SOCIAL COMMITTEE ACTIVITY

Since April 2020, the Computer Science Social Committee has made it its mission to organise a variety of online events, fun activities and competitions, to make this time of isolation and remote working more bearable. There have been pub quizzes, photography competitions, Netflix movie parties, Halloween pumpkin carving and even a remote Secret Santa to mention but a few!
We are still a team, despite the physical distance! COME TOGETHER #CStogether

A selection of posters for events organised by the Social Committee of Gráinne Ní Nualláin, Rosemary Deevy, Emily Delaney and Giuseppina Sethuraman.

University College Dublin
School of Computer Science

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