Welcome (Back) to Informatics

Reiko Heckel
Head of Informatics
Agenda

- News
- WCSL, ULCS, Enactus
- Stars of 15/16
- Konstantina Muston, CEO startdoms.com
- Refreshments
From Computer Science to Informatics

Announced in May, with effect of 1st August

- We see increasing demand, both inside the institution and globally, for expertise in applied and interdisciplinary teaching and research in software.

- The Department plans to increase its links with business and take a strong lead in developing student enterprise, building on the initiative of a student IT consultancy.

- The change of name will signal the transformation and wider intellectual ambitions of the discipline at Leicester;

- a Department of Informatics reflects an outward-looking, applied and enterprising perspective that builds upon yet also reaches beyond the technical core of the discipline.
Student News

We (expect to) welcome
- 165 BSc students
- 57 MSc students (plus 25 Jan)
- 6 PhD students

Currently, that makes
- 424 BSc students
- 106 MSc students
- 45 PhD students
Graduate News

We congratulated

- 63 BSc students
- 39 MSc
- 7 PhD students

on their graduation.
Staff News

Dr Emmanuel Tadjouddine appointed in January as a Teaching Fellow, developing a new 3rd year module on Big Data Analytics (2nd term)

Dr Nervo Verdezoto joined in March as a Lecturer in Human Computer Interaction helping to design a new MSc programme
Employability News

- 25 BSc and 8 MSc students currently on placements
  - Rolls-Royce CDS, IBM, Philips 66, Adey Steel Group,
  - Bosch Thermotechnology, IBM India Pvt Ltd, Ashfield Healthcare,
  - Leicestershire Police, Science & Technology Facilities Council
  - 51 Parcel Ltd, UWINLOC, UoL, …

- AA: Agile Academy, a departmental SW company employing students to deliver projects for internal and external clients

- consistently 90+% of graduates (home/EU) in full-time professional or managerial roles or further study after 6 months
Research News: SibylFS and Docker

- SibylFS is a file system specification and test suite, developed by researchers at Leicester and Cambridge (principally Tom Ridge).

- SibylFS was used to analyse many file systems across Mac, FreeBSD and Linux. Some serious bugs (including machine crashes) were uncovered.

- Docker, the leading containerization company, released a version of their products for Windows and Mac at dockercon16 (previously the product was only available on Linux).

- These new products provide a Linux-like file system on top of the native (Windows, Mac) system. In order to do this, Docker used SibylFS to analyse the differences in behaviour between all these different file systems.

- This is an example of how research at Leicester has led directly to real-world impact in a very short space of time.
Online Bin Packing

• Pack items into bins
• Items arrive one by one
• Use as few bins as possible

• How well can we do compared to the situation where items are known in advance?

• ICALP 2016: loss is at most a factor 1.5815 (Heydrich & van Stee)
• First improvement in 15 years
CLINICAL AND NON-CLINICAL HAN DOVERS: DESIGNING FOR CRITICAL MOMENTS

Understanding and Designing to support Hospital Service Work Practices

Research Approach
- Initial Exploration: a workshop with nurses, secretaries, hospital orderlies
- Pre-intervention: semi-structured interviews, questionnaires, observations
- Intervention: pilot study of a task management application with indoor positioning

Main Findings & Recommendations
- Characterization of clinical and non-clinical handovers (e.g., information, tasks, etc.)
  - Clinical -> Non-clinical handovers, Non-clinical -> Clinical handovers, Intra Non-clinical handovers
- Technology made more visible the work of hospital orderlies
- Orderlies’ task overview can be seen as an entity of the hospital information infrastructure
- Design recommendations for sustaining dynamic handover tasks


Go-Lab (FP7, 2012-2016)

NEXTLAB (H2020, 2017-2020)


University of Leicester, University of Nottingham China Ningbo
InnovateUK TestMiner
Analysing test executions in version repositories

ASUR
Trustworthy Autonomous Systems
Measuring trust in autonomous decisions

Evidential Reasoning for Radiological Detection
Decision support for nonproliferation activities

Tom Gransden
Finalist in EPSRC Young Pioneers Competition
Computational Intelligence for Software Engineering


- Paper on using transfer learning for estimating the effort required to develop software projects.


- First work on automatic allocation of employees to tasks considering the dynamic environments of software companies.

Machine Learning for Non-Stationary Environments

- Machine learning algorithm able to learn classification problems where new categories emerge with time, or old categories disappear, e.g., Twitter topic classification.


- Class imbalance learning algorithm able to cope with categories whose proportions change with time, e.g., Twitter topic classification, prediction of whether a chess player will win / loose.

Microsoft Outstanding Collaboration Award
We are a team of passionate entrepreneurs dedicated to positively impact our planet through transformative action and scalable, sustainable solutions.

We are a student-led organization at the University of Leicester with projects that tackle food waste and unemployment.

We are supported by leading companies and business leaders that believe in our action and want to hire YOU. These include Amazon, Unilever, Tesco, GSK, KPMG and so many more.

3 Projects

Semi-Finalists
National Competition 2016

13 Members
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Happy New Academic Year