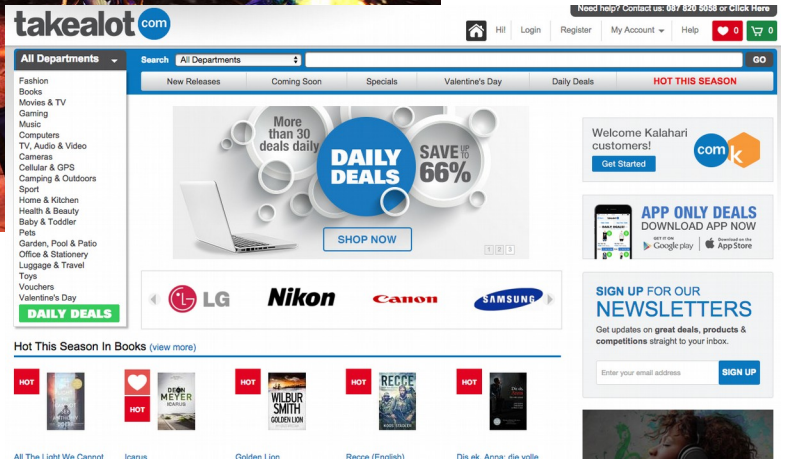
UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

IT | SCHOOL OF IT

# An Invitation to IT

*Hussein Suleman <hussein@cs.uct.ac.za>*
*April 2018*

# Why IT is Important Now



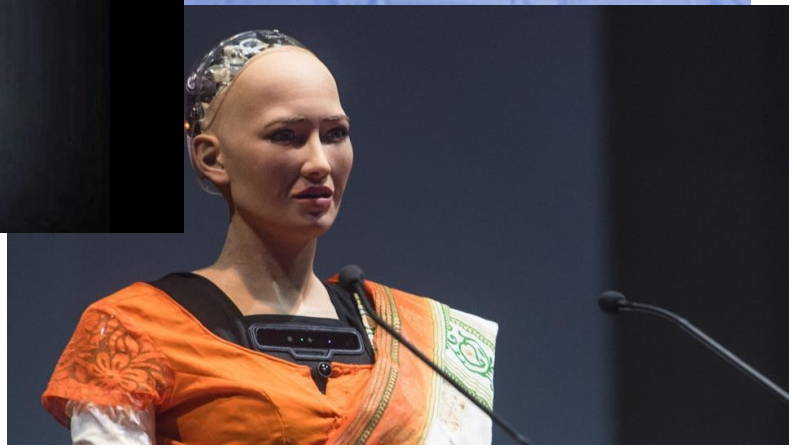

Google

Google Search  I'm Feeling Lucky

Google offered in: Afrikaans Sesotho isiZulu IsiXhosa Setswana Northern Sotho

# IT in a Future World



# Why Study IT?

- Change the world!
- Be happy.
- Be excited.
- Stability/Job security.
- Lots of growth opportunities.
- Make money.
- Get famous.
- Study further or teach.
- Complement something else.
  - One major for fun; one for a career.

**GLASSDOOR'S BEST JOBS IN AMERICA 2017**

1. Data Scientist
2. DevOps Engineer
3. Data Engineer
4. Tax Manager
5. Analytics Manager
6. HR Manager
7. Database Administrator
8. Strategy Manager
9. UX Designer
10. Solutions Architect

SOURCE: GLASSDOOR 50 BEST JOBS IN AMERICA

CAREER SHERPA

# What does an IT graduate do?

- Not just sitting in a dark room by a terminal
- Learn by doing
- Variety
- Helping people
- Entrepreneurial
- No ‘one’ career/degree

# 5 Branches of IT

- Computer Science
  - Foundations and principles (software/algorithms)
- Information Systems
  - Business processes and info-centric applications
- Software Engineering
  - Software development processes
- Information Technology
  - Applications of IT
- Computer Engineering
  - Hardware and communications

*Reference: ACM Computing Curricula: Overview*

# IT @ UCT

- School of IT
  - Department of Computer Science (Science Faculty)
    - BSc/BBusSci degrees in Computer Science
  - Department of Information Systems (Commerce Faculty)
    - BCom/BBusSci degrees in Information Systems
- Other departments
  - Department of Electrical Engineering (Engineering Faculty)
    - BSc (Eng) in ElecEng or Computer Engineering

# What is Computer Science?

- Computer Science (CS) is the study of:
  - Computer software
  - Algorithms, abstractions and efficiency
  - Theoretical foundation for computation
- What you learn in a Computer Science degree:
  - Principles of computation
  - How to make machines perform complex tasks
  - How to program a computer
  - What current technology exists and how to use it
  - Problem solving

# Computer Science @UCT topics

- First year
  - Problem solving and programming in Python
  - Object-oriented design in Java
- Second year
  - Data structures, databases, HCI, parallel computing, computer architecture, software engineering
- Third year
  - Operating systems, networks, algorithms, advanced software engineering, (C++, machine learning, graphics, ...)
- Honours
  - compilers, functional programming, research and innovation, AI, HCI, big data, games, security

# Why Study CS @ UCT

- Degree accredited by British Computer Society (international curriculum).
- CS department ranked highest in country.
- Innovative teaching (Research course, constant curriculum revisions, etc.).
- Diverse staff interests.
- Enthusiastic staff and students!

# What do I need to get into CS?

- Meet points score for admissions.
- High school Mathematics!
  - 70% in NSC
- 60% in Physics or IT if you want a BSc
  - otherwise you can get a BbusScu, BCom (IS+CS) or BA(CS)

- Everything else we will teach you.
- No Matric IT needed!
  - Seriously, we can teach this stuff better :)

# So what degree do I apply for to do CS?

- BSc with a major in Computer Science
- BBusSci with a specialization in CS
- BCom with a specialization in IS+CS
- BA with a major in Computer Science

# Interested?

- ask questions or find me later
- hussein@cs.uct.ac.za
- OR simply ask at the Computer Science stall or Information Systems stall today