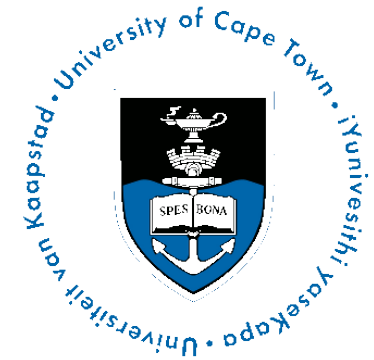# An Invitation to
IT and Computer Science

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An Invitation to IT and Computer Science
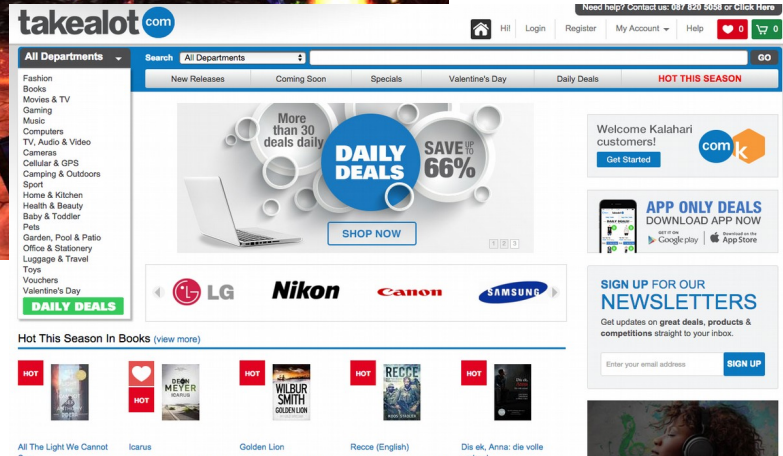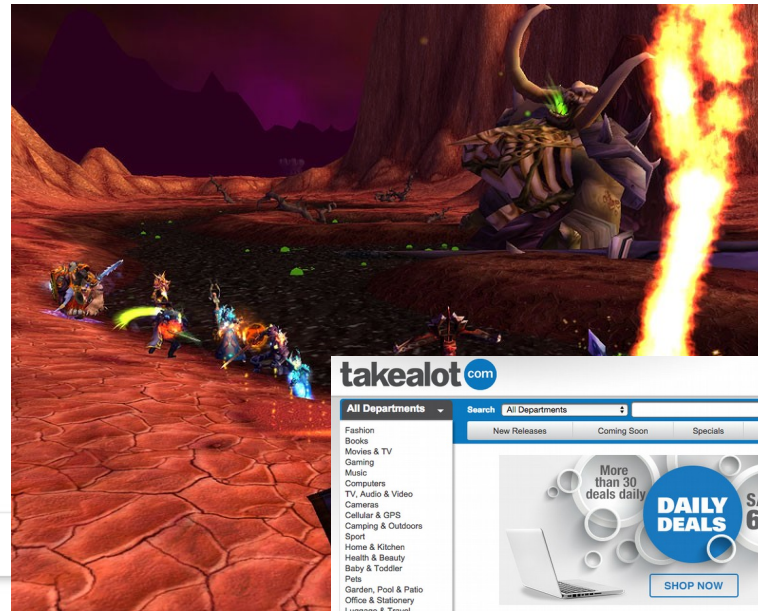
Why IT is Important Now

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.
  - ■ Something for fun; something for a career.

THE BEST JOBS IN THE U.S. FOR 2020

RANK. JOB TITLE	MEDIAN BASE SALARY	JOB OPENINGS
1. Front End Engineer	$105,240	13,122
2. Java Developer	$83,589	16,136
3. Data Scientist	$107,801	6,542
4. Product Manager	$117,713	12,173
5. Devops Engineer	$107,310	6,603
6. Data Engineer	$102,472	6,941
7. Software Engineer	$105,563	50,438
8. Speech Language Pathologist	$71,867	29,167
9. Strategy Manager	$133,067	3,515
10. Business Development Manager	$78,480	6,560
11. Nursing Manager	$85,389	12,320
12. HR Manager	$83,190	3,966
13. Operations Manager	$70,189	19,198
14. Salesforce Developer	$81,175	3,639
15. Finance Manager	$120,644	4,091
16. Accounting Manager	$85,794	3,589
17. Program Manager	$87,005	19,280
18. Applications Engineer	$76,854	9,550
19. Clinic Manager	$70,000	5,768
20. Physical Therapist	$71,483	28,886

SOURCE: GLASSDOOR
THE LIST IS BASED ON THREE FACTORS: MEDIAN BASE REPORTED SALARY, NUMBER OF JOB OPENINGS AND OVERALL JOB SATISFACTION RATING (ON A SCALE OF 1.0= BAD JOB TO 5.0= BEST JOB) OVER THE PAST YEAR.

yahoo! finance

UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA · UNIVERSITEIT VAN KAAPSTAD

IT | SCHOOL OF IT

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

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, ...)

- **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 BBusSci, 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 degrees are Computer Science?

- 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 me questions
  - hussein@cs.uct.ac.za

- Or simple ask anyone from Computer Science now or later in the year

Thank you for listening!