



University of  
Bedfordshire

1

What is...

Computer Science?

Software Engineering?

Dr Marc Conrad

University of Bedfordshire

# Computer Science...

artificial comparative **computer** concepts database  
**development** emerging engineering fundamentals  
integrated intelligence introduction management methodologies modern  
object operating oriented practices principles professional  
**programming project** research  
**software** security social structure studies  
**systems technologies**



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3

# Software Engineering...

advanced applications artificial concepts  
database development emerging engineering  
fundamentals intelligence introduction management methodologies mobile modern object  
oriented paradigms practices principles professional  
programming project research social software  
systems  
technologies undergraduate



# Computer Science Software Engineering

- Computer
- Systems
- Programming
- Software
- Technologies
- Project

# Computer

Systems Programming Software  
Technologies Project

Firefox Computer - Google Search

https://www.google.co.uk/search?q=Computer&oe=utf-8&aq=t&rlz=org.mozilla:en-US:official&client=firefox-a&channel=np&um=1&ie=UTF-8&hl=en&ttbm=isch&source=og&sa=N&tab=wi&ei=frKgUNu0MonNhAem5oGAAg&biw=1920&bih=949&us

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Google Computer

Search About 3,660,000,000 results (0.11 seconds)

SafeSearch moderate

Web  
Images  
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News  
Shopping  
Blogs  
Books  
More

Any time  
Past 24 hours  
Past week  
Custom range...


All results  
By subject

Any size  
Large  
Medium  
Icon  
Larger than...  
Exactly...

Any color  
Full color  
Black and white

Any type

Related searches: [cartoon computer](#) [dell computers](#) [desktop computer](#) [computer clip art](#) [computer screen](#)



Control-Alt-Fix

HELP

Reason FL STUDIO

Studio One

live

Your text here

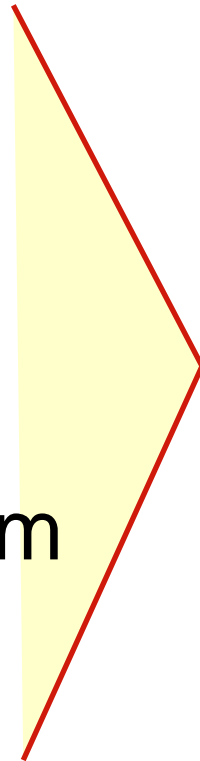
COMPUTER

McAfee

Desktop 08:27 12/11/2012

# Computer

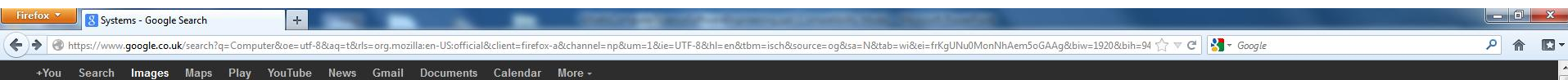
- Desktop
- Laptop
- Handheld Device
- Tablet
- Embedded System
- Mainframe
- ....



Turing Machine?



# Computer Systems Programming Software Technologies Project



Systems



Sign in

Search

About 2,900,000,000 results (0.30 seconds)

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Web

Related searches: [computer systems](#) [body systems](#) [systems logo](#) [systems analyst](#) [systems and control](#)

Images

Maps

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Custom range...

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By subject

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Any color

Full color

Black and white

Color palette

Color palette

Color palette

Color palette

Color palette

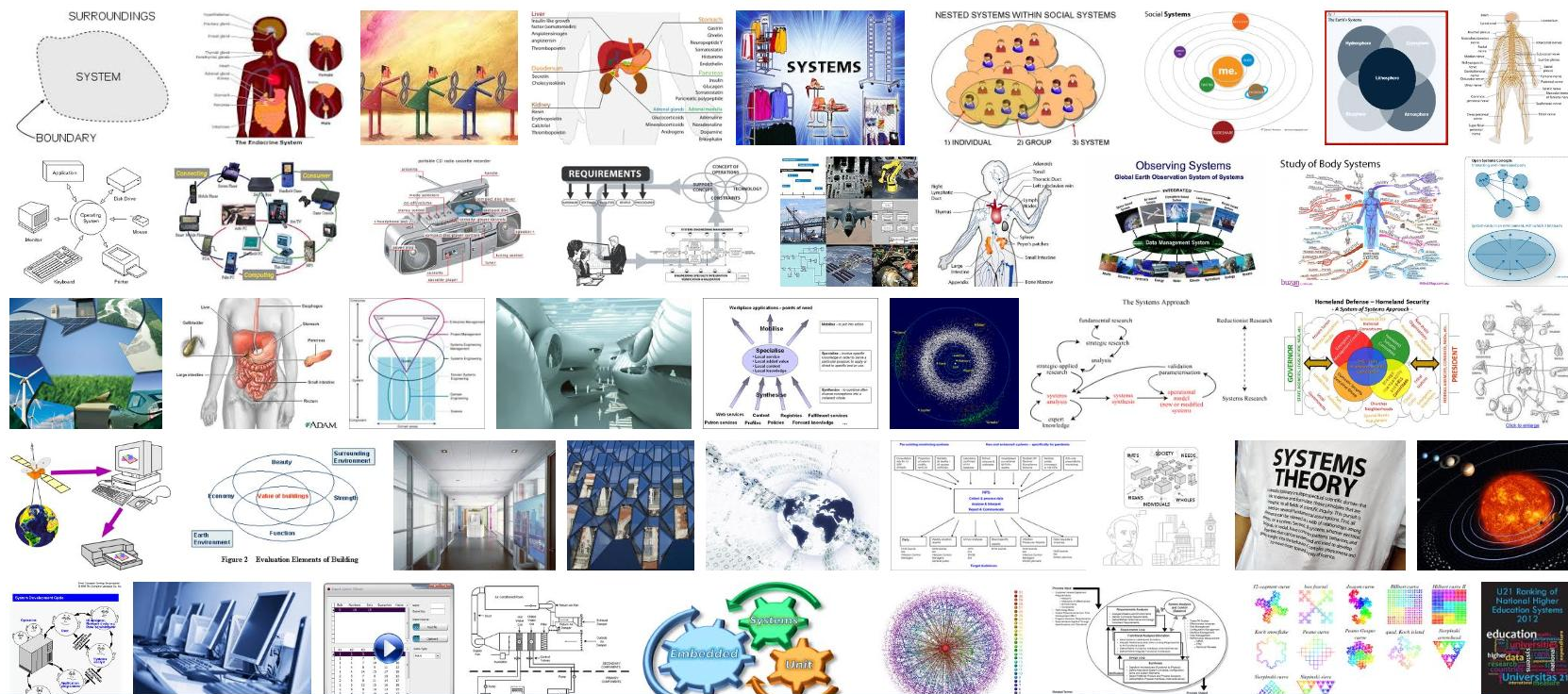
Color palette

Color palette

Color palette

Color palette

Color palette



# Systems

- Systems of Computers
  - distributed systems, world wide web, internet, ...
- Computers and other Machines
  - car, dishwasher, digital radio, ...
- Computers and People,
  - me, you, the guy over there, ...





9

Computer Systems **Programming**  
Software Technologies Project





# Programming

- Programming Languages
  - Java, asp, php, LSL, C++, C, ...
  - <http://www.lextrait.com/vincent/implementations.html>
- What's the *best* programming language?
  - Very much depends. On what?
- Algorithms
  - Find data, sort data, process data...



# Computer Systems Programming Software Technologies Project

Firefox software - Google Search

https://www.google.co.uk/search?q=Computer&oe=utf-8&aq=t&rls=org.mozilla:en-US:official&client=firefox-a&channel=np&um=1&ie=UTF-8&hl=en&tbm=isch&source=og&sa=N&tab=wi&ei=frKgUNu0MonNhAem5oGAAG&biw=1920&bih=949&s

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Google Software

Search

About 6,290,000,000 results (0.12 seconds)

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Related searches: [computer software](#) [software development](#) [software icon](#) [software applications](#) [microsoft office](#)

Web  
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Exactly...

Any color  
Full color  
Black and white

Any type  
Face



McAfee

Desktop 08:39 12/11/2011



# Software

- What software do we need?
- What software can we do?
- How many bugs do we want?
- How many bugs do we have?





# Computer Systems Programming Software Technologies Project





# Technologies

- Hardware
- Networks
- Devices
- Interfaces



# Computer Systems Programming Software Technologies

# Project



# Project

- Cost, Time, Scope, Quality
- Human Resources, Communication
- Procurement, Integration,
- Risk

# Example: facebook

- **Computer**
  - Works on desktops, laptops, mobile devices,...
- **Systems**
  - Social Interaction, Security, Privacy
- **Programming:**
  - php (plus many others for subsystems)
- **Software**
  - What do we want? What do facebook's clients want? What does facebook's shareholders want?
- **Technologies**
  - Networking, the 'Internet', ...
- **Project**
  - 3,976 employees at the end of June 2012.



# Example: THIS TALK

- Computer
  - Desktop Machine
- Systems
  - Interaction of beamer, keyboard, mouse, screen ....
- Programming:
  - C++ (for PowerPoint)
- Software
  - PowerPoint, beamer as embedded system
- Technologies
  - Networking, CPU, GPU, Laser, ...
- Project
  - Preparing these slides (when? How many?)



# So we have...

- Computer
- Systems
- Programming
- Software
- Technologies
- Projects

*At the  
University of Bedfordshire?*



# Computer at beds.ac.uk

Firefox Computer site:beds.ac.uk - Google Search

https://www.google.co.uk/search?q=Computer+site:beds.ac.uk&oe=utf-8&aq=t&rlz=org.mozilla:en-US:official&client=firefox-a&channel=np&um=1&ie=UTF-8&hl=en&ttbm=isch&source=og&sa=N&tab=wi&ei=frKgUNu0MonNhAem5oGAAg&biw=1920&bih=949&gs

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Google Computer site:beds.ac.uk

Search About 3,450 results (0.38 seconds)

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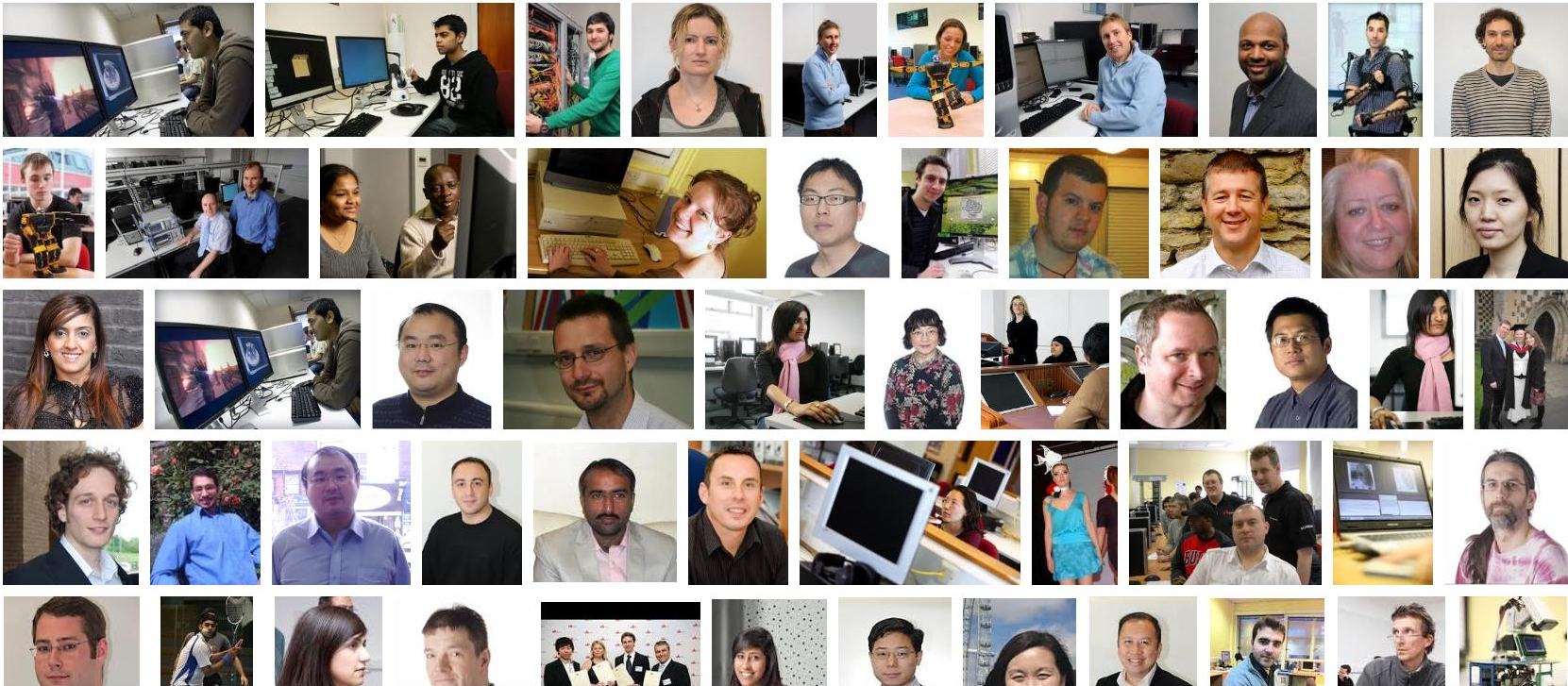
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Any type

Related searches: [cartoon computer](#) [dell computers](#) [desktop computer](#) [computer clip art](#) [computer screen](#)



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# Programming at beds.ac.uk

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https://www.google.co.uk/search?q=Computer&oe=utf-8&aq=t&rlz=org.mozilla:en-US:official&client=firefox-a&channel=np&um=1&ie=UTF-8&hl=en&tbm=isch&source=og&sa=N&tab=wi&ei=frKgUNu0MonNhAem5oGAAG&biw=1920&bih=949&...

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Google Programming site:beds.ac.uk

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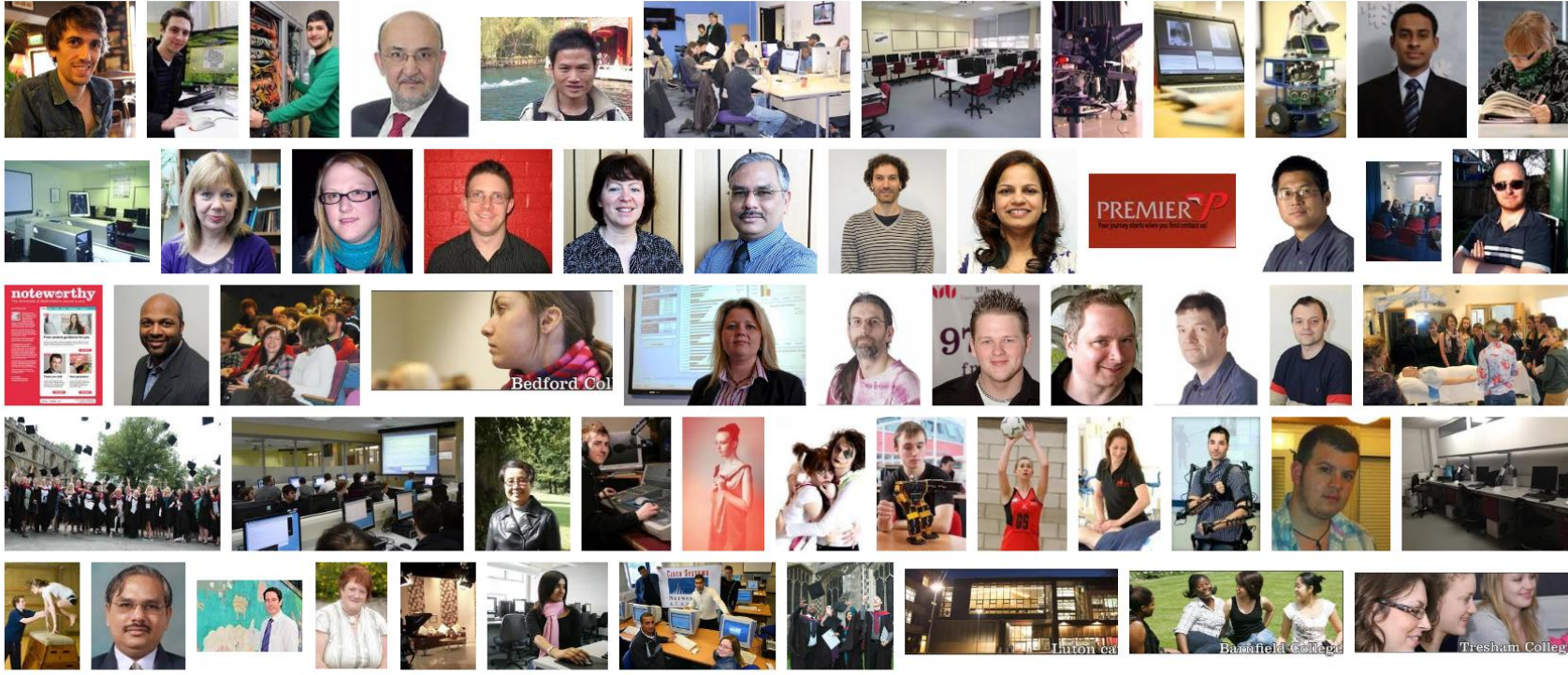
Any time  
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Past week  
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All results  
By subject

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Icon  
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Exactly...

Any color  
Full color  
Black and white

Any type



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# Systems at beds.ac.uk

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https://www.google.co.uk/search?q=Computer&oe=utf-8&aq=t&rlz=org.mozilla:en-US:official&client=firefox-a&channel=np&um=1&ie=UTF-8&hl=en&ttbm=isch&source=og&sa=N&tab=wi&ei=frKgUNu0MonNhAem5oGAAG&biw=1920&bih=949&... Google

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Search About 2,480 results (0.34 seconds) SafeSearch moderate

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More

Any time  
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Custom range...

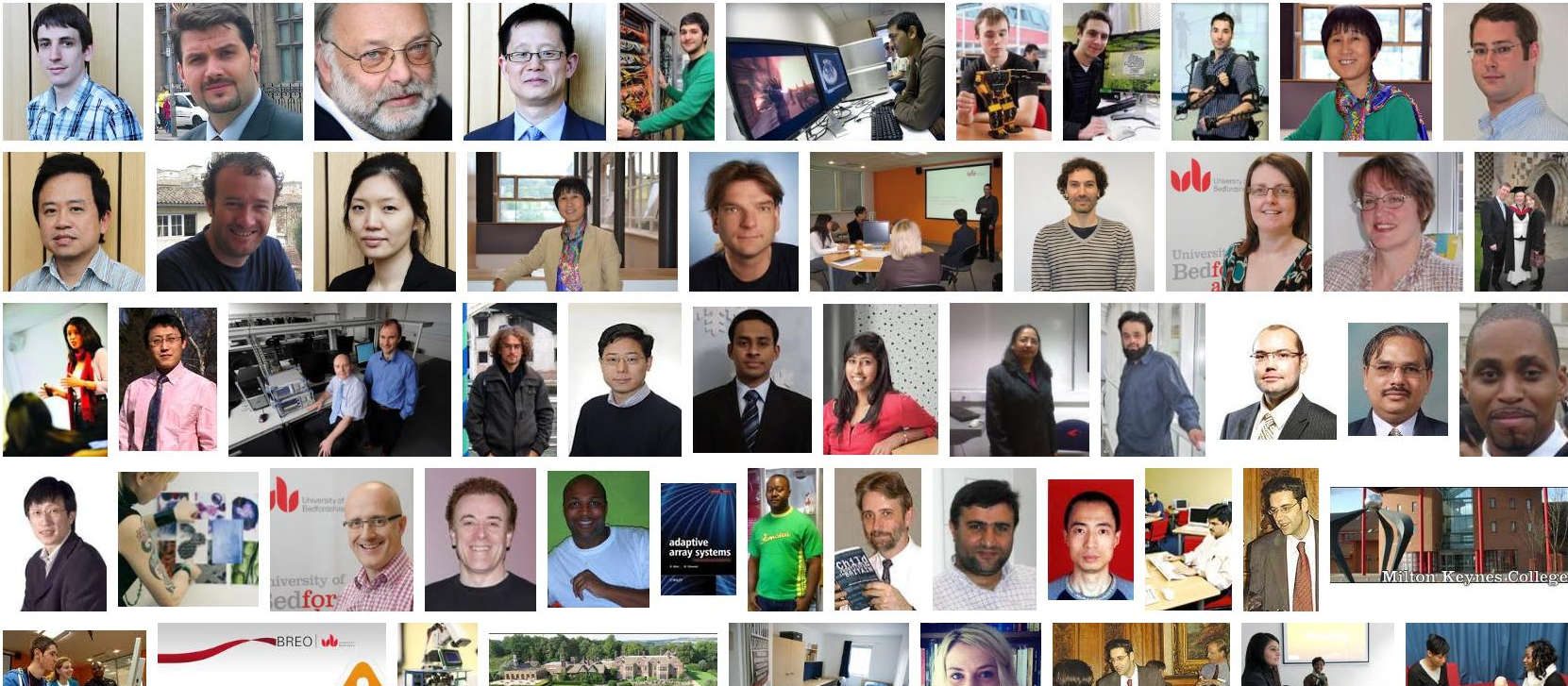
All results  
By subject

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Any color  
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Black and white

Any type  
Face  
Photo

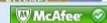
Related searches: [computer systems](#) [body systems](#) [systems logo](#) [systems analyst](#) [systems and control](#)



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# Software at [beds.ac.uk](https://beds.ac.uk)





# Technologies at beds.ac.uk

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https://www.google.co.uk/search?q=Computer&oe=utf-8&q=t&rl=org.mozilla:en-US:official&client=firefox-a&channel=np&um=1&ie=UTF-8&hl=en&ttbm=isch&source=og&sa=N&tab=wi&ei=frKgUNu0MonNhAem5oGAAg&biw=1920&bih=949&...

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Google Technologies site:beds.ac.uk

Search About 7,430 results (0.36 seconds)

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Any time  
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All results  
By subject

Any size  
Large  
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Icon  
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Exactly...

Any color  
Full color  
Black and white

Any type  
Face  
Photo

Related searches: [computer technology](#) [information technology](#) [technology tools](#) [technology background](#) [design technology](#)

Images showing various people, technology, and university-related scenes, including a large image of a building at night and a group of people in graduation gowns.

Grantham College

Bedford College

South Notts College

Central Bedfordshire College (Dunstable)

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# Project at beds.ac.uk

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Search About 1,930 results (0.49 seconds) SafeSearch moderate

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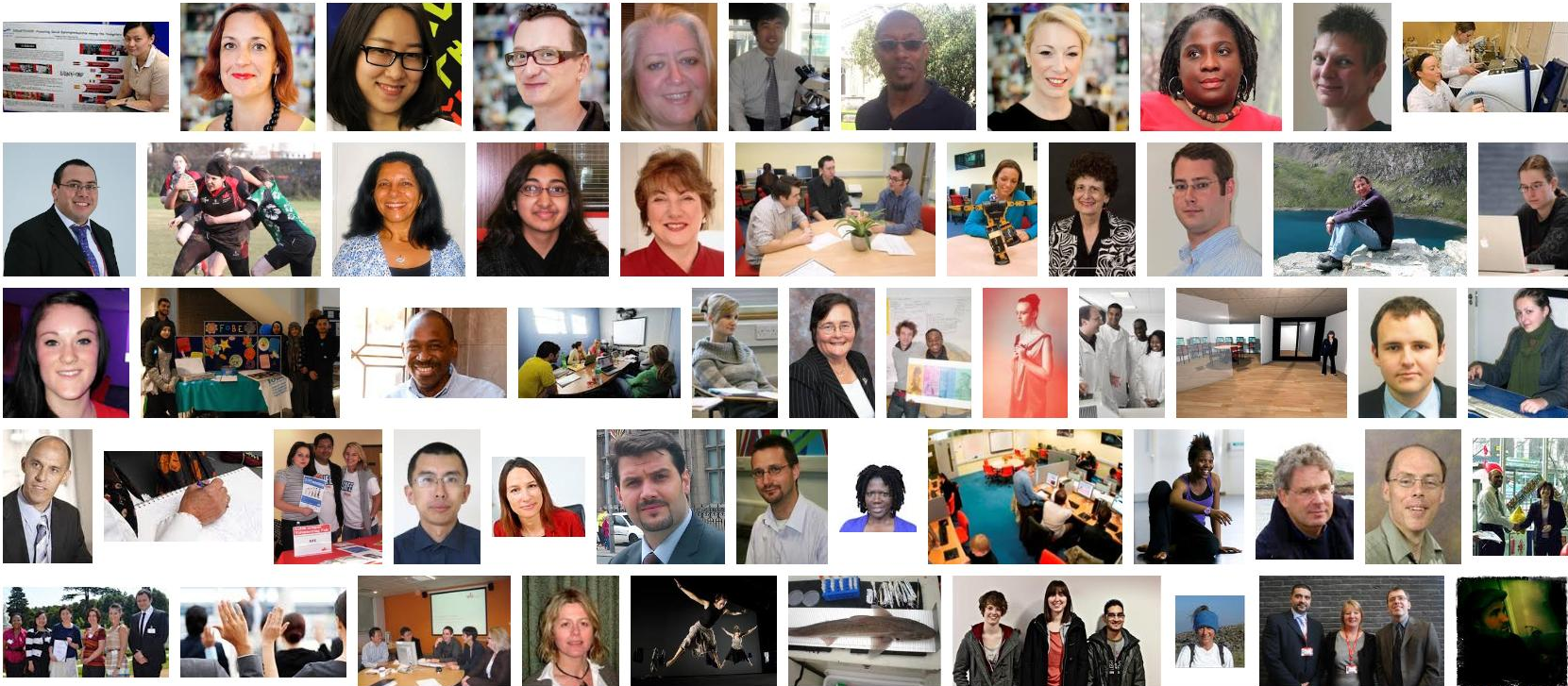
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Black and white

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Face  
Photo

Related searches: [housing projects](#) [projects ghetto](#) [building projects](#) [project management](#) [project icon](#)



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People site:beds.ac.uk



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About 2,780 results (0.42 seconds)

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Web

Related searches: [people silhouettes](#) [group of people](#) [young people](#) [business people](#) [people walking](#)

Images



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Any time

Past 24 hours

Past week

Custom range...

All results

By subject

Any size

Large

Medium

Icon

Larger than...

Exactly...

Any color

Full color

Black and white

Color palette icons

Any type

Face

Photo

Clip art







# Students at [beds.ac.uk](https://beds.ac.uk)





You?  
at [beds.ac.uk](https://beds.ac.uk)



You? site:beds.ac.uk



Sign in

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Related searches: [i love you](#) [i want you](#) [we need you](#) [your country needs you](#) [pointing finger](#)



Past 24 hours  
Past week  
Custom range

By subject

Large  
Medium  
Icon  
Larger than...  
Exactly...

Full color  
Black and white



Face  
Photo  
Clip art

# So...

- University is People. People are University
- Join the University, become part of it...
  - BSc (Hons) Computer Science
  - BSc (Hons) Software Engineering
  - BSc (Hons) Information Systems
  - BSc (Hons) Computing and Mathematics
  - BSc (Hons) Business Information Systems
  - BSc (Hons) AI and Robotics
  - and many more...