Industrial Research & Grad School

Gordon Kurtenbach, Director of Research, Autodesk
Autodesk is a world leader in 2d and 3d design, engineering, and entertainment software
Autodesk

Makes design software: AutoCAD, Inventor, Maya, Max,…

9 million professionals in 185 countries use Autodesk products
Anything built
Autodesk Research

Collection of Ph.D.s on mission to discover new technology and insights

Works with academic community

Thought leadership, publications
Autodesk Research

About 30 people

Carl Bass - President

Jeff Kowalski – CTO

“Me”
Autodesk Research

Groups

Within Autodesk Research, there are four domain groups focused on User Interface research, Environmental & Ergonomics research, Simulation & Graphics research, and High Performance Computing research. In addition, an important part of Autodesk Research is our Research Transfer group that bridges the gap between Research and Development. Together, our five groups form a team of dedicated world-class professional research scientists and software developers working on some of the most interesting and challenging research topics of our time.

Environment & Ergonomics Research
Azam Khan
The Environment & Ergonomics Research Group focuses on how to minimize the impact of the built environment on the natural environment. Humans are the bridge between these two worlds and it is human activity that has created every environmental problem from factory farms destroying local environments to factory cities destroying global environments.

High-Performance Computing Research
Francesco Torio
The High Performance Computing Research Group is focused on exploring new multi-processor paradigms to improve performance and scalability of software applications. From embedded systems to cloud computing, from bleeding-edge accelerators and hybrid computing infrastructures to large parallel systems, the group researches and evaluates computing systems, data networks and their interaction.

Nanotechnology
Carlos Olguín
Nanotechnology, the control of matter on an atomic and molecular scale, is an emerging meta-field growing at an accelerated pace. Almost every industry is or will be affected by nanotechnology in a potentially radical way. Nanotechnology will ultimately bring a new age in humanity's ability to design and make things.

Research Transfer
Thomas White
At Autodesk Research, we believe in making a difference. We are not satisfied with creating abstract solutions locked away in a journal publication. Our researchers are proud to have a dedicated team of professionals to help move research outcomes from their prototypes and publications into real products. We get great satisfaction from helping people to solve their problems better, faster, and more intuitively.

Simulation & Graphics Research
Jos Stam
Our group has a long history of developing advanced natural phenomena simulation. Our research has resulted in a real-time fluids solver, an advanced cloth solver and self-affecting particle system, all available in Maya.

User Interface Research
George Fitzmaurice
The User Interface Research Group is focused on advancing the field of human-computer interaction research both at the hardware and software levels. We are constantly exploring new ways to make the software which we work with easier to learn, friendlier to use, and more efficient. Our interests lie in both seeking novel yet immediately applicable solutions to the user interface challenges existing in today's software applications, and also rethinking the underlying concepts for which today's user interfaces are designed, by exploring new paradigms which could shape the future generation of application user interfaces.
My background:

B.Sc Comp. Sci.
Research associate at U of Sask.
M.Sc. Comp. Sci. U of Toronto
Apple Advanced Technology Group (intern, consultant)
Ph.D. U of Toronto
Xerox PARC (intern, post doc)
UI researcher at Alias
Autodesk buys Alias in 2006
Range of Jobs for PhD and MSc in industry

Academia----Industrial Research--------Product
Engineering

Microsoft Research

Autodesk Research

Autodesk Labs

Autodesk Product Development

Start up
What’s different about Industrial Research over Academic?

Work on realizable, valuable solutions with real people

Potential for large influence on industry

Not on the manufacturing assembly line

Not in the academic rat race
What should your resume look like?

A website

A website with lots of relevant publications

Your academic supervisor saying:

“This person rocks and I think he would fit into your group and do great on project X”
Getting a foot in the door

Excel in your field (publications, systems, interests)

Persue Internships

Find research topics goals similar to the initiatives of the lab/internship

During tight economy: Consider no-fee internship, but ensure you deliver
Industrial internships are good even if you are headed to academia

Add to publications

Create network of collaborator/funders

Built internships channel for your students
Career paths once inside:

Researcher -> Researcher Scientist -> Senior-Principal -> Head -> Director

Research Engineer (don’t publish)

Engineer

Management/Leadership
The transition from academia to industrial research

Constant gravity of product develop to coop research resources (you)

Research seen as “non-essential”

Challenge of research transfer

You can have big impact
The transition from academia to industrial research

Do business proposals rather than grant applications

Life inside a business

   Exciting, Frustrating, Lucrative,…

Constant change
The group of people you work with approximates quality of job

Choose wisely
Autodesk Research Internship Program

Autodesk research has a thriving internship program and we are always looking for bright and motivated researchers to join our team. Typically interns are graduate-level university students from areas of computer science which relate to our research interests. Our internship program provides students with an incredibly valuable opportunity to apply, broaden, and strengthen their own research skills, working closely with our team of experienced computer science researchers. We accept interns at all times of the year, and look forward to hearing from you.

Please contact us if you are interested in doing exciting research at Autodesk!

Employees (Formerly Interns)
Rhys Goldstein
Tovi Grossman
Justin Matejka
Ruslana Steininger

Graduate Student Interns
Jacky Bibilowicz
Simon Breslav
Marco Fais
James McCrae
Ryan Schmidt

Undergraduate Student Interns

Alumni Graduate Students
Ravin Balakrishnan
Xiaojun Bi
Nicolas Burtynyk
Parmit Chilana
Keenan Crane
Michael Ekstrand
Dongwoon Lee

Alumni Undergraduate Students
Don Almeida
Sean Anderson
Alex Babkin
Ian Chan
Jennica Cheah

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Canada
We have research internships all year round

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Graphics/fluids simulation/ipad

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