

Onlinekurser – möjlighet och/eller hot

2012-11-06, Fakultetsrådet

Robert Feldt

Chalmers



CHALMERS

HOSE Lab (Human-focused SE)
Dept of Computer Science and Engineering

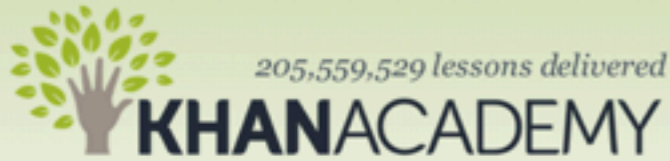


**UNIVERSITY OF
GOTHENBURG**

OnlineEdu - Strategiskt viktigt!

- **Mitt budskap idag:**
- Troligen tror ni inte på “Online kurser/utbildning”
- BRA, men givet: **gammal** EduTech/OnlineEdu (ETO)
- Nu: Ny ETO, Många aktörer, Utforskande fas
- Kommer förändra utbildningsformer på alla nivåer
- Därför:
 - Strategiskt viktigt!
 - Hot el. möjlighet beroende på hur vi agerar

Ny EduTech/OnlineEdu?

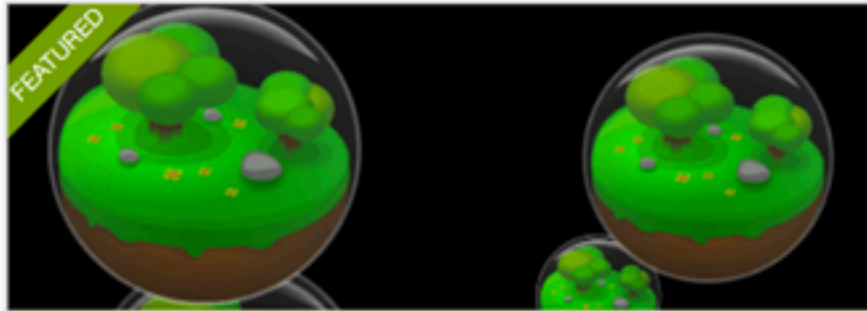


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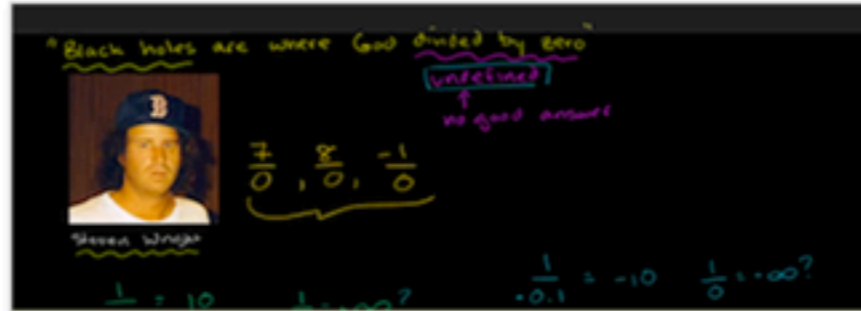
Learn almost anything for free

Examples: algebra, oxidation, Napoleon, money supply



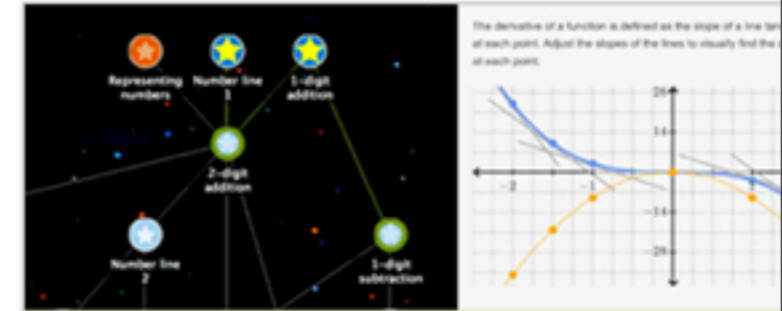
Explore computer science

Create beautiful art and design your own simulations while learning how to program.



Learn why dividing by zero is undefi...

Why is dividing by zero undefined? Think through this question with Sal's help.



Practice your math skills

Practice your math skills from addition to calculus and everything in between.

Ny EduTech/OnlineEdu?

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We are a donor-supported not-for-profit and would not be possible without the [generous support](#) of users everywhere. In particular, we'd like to thank The Bill and Melinda Gates Foundation, Ann & John Doerr, the O'Sullivan Foundation, Reed Hastings, Google, and the Windsong Trust for their strong support of our mission.

Ny EduTech/OnlineEdu?

The image shows a screenshot of the Khan Academy website. The browser's address bar displays "www.khanacademy.org". The page features a navigation bar with "BROWSE OUR LIBRARY" and links for "Sign up" and "Log in". The main content is organized into several subject categories, each with a list of sub-topics in button-like boxes. On the left, there is a sidebar with a tree logo and a "Learn" button. On the right, there are additional navigation options like "COACH" and "VOLUNTEER", and a small video player showing a graph with a tangent line.

www.khanacademy.org

BROWSE OUR LIBRARY

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COACH VOLUNTEER

Math

Arithmetic and Pre-Algebra, Algebra, Applied Math, Geometry, Trigonometry, Probability, Statistics, Precalculus, Calculus, Differential Equations, Linear Algebra, Brain Teasers, Vi Hart

Science

Biology, Chemistry, Cosmology and Astronomy, Healthcare and Medicine, Organic Chemistry, Physics, LeBron Asks, MIT+K12, Projects

Computer Science

Drawing, Programming Basics, Animation, User Interaction

Finance & Economics

Core Finance, Valuation and Investing, Venture Capital and Capital Markets, Credit Crisis, Paulson Bailout, Geithner Plan, Current Economics, Banking and Money, Currency, Microeconomics, Macroeconomics, Greek Debt Crisis

Humanities

History, American Civics, Art History

Test Prep

SAT Math, GMAT, CAHSEE, California Standards Test, Competition Math, IIT JEE, Singapore Math

Learn

FEATURED

Explor

Create while le

math skills

skills from addition to calculu

ween.

Topic page
Multivariable calculus

Partial Derivatives

Partial Derivatives 2

Gradient 1

Gradient of a scalar field

Divergence 1

Divergence 2

Divergence 3

Curl 1

Curl 2

Curl 3

Double Integral 1

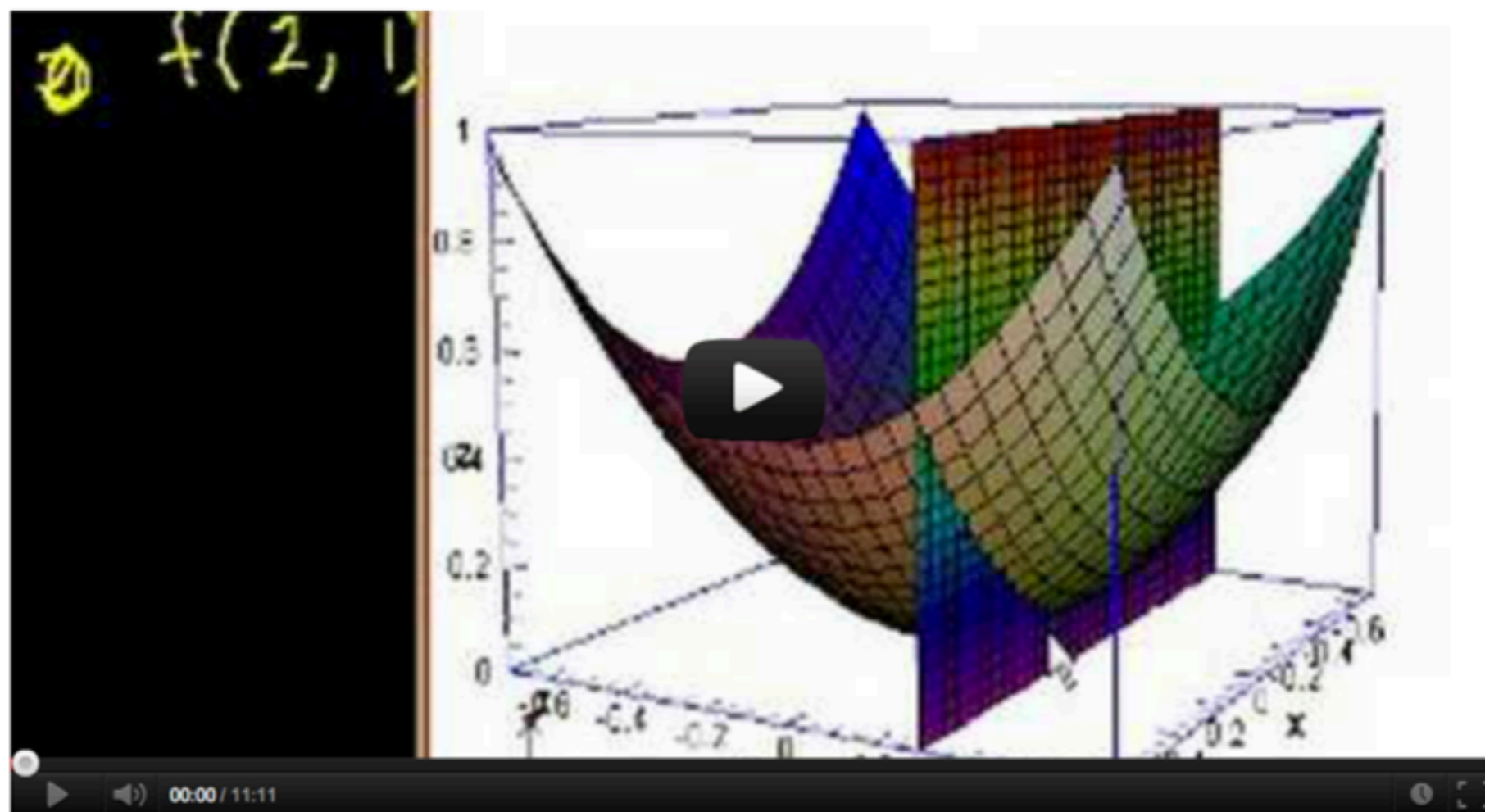
Double Integrals 2

Double Integrals 3

Double Integrals 4

Partial Derivatives

Introduction to partial derivatives.



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Options ▾ Share ▾ 0 of 750

Questions Tips & Feedback Top Recent

Ask a question...

at [4:55](#) sal mentions a free java applet grapher whose url he will provide. sage and mathematica are fine, of course, but quite large and complicated if one's purpose is merely simple graphs. it would be nice to have the java applet. thanks
 11 Votes ▲ ▾ · 1 Comment · Flag about a year ago by [Scott M Lewis](#)

<http://dlippman.imathas.com/g1/Grapher.html>
 14 Votes ▲ ▾ · Comment · Flag about a year ago by [Lee.mize](#)

Show all 3 answers

When do you use partial differentiation as opposed to implicit differentiation?
 11 Votes ▲ ▾ · Comment · Flag about a year ago by [Alejandro.Invierno](#)

partial differentiation is used when differentiating a function of more than one variable. in this video, $Z(x,y)$ is a function of x and y . implicit differentiation was used in problems where

Answer more questions

Visit [Community Questions](#) to answer new questions in [Calculus](#).

Discuss the site

For general discussions about Khan Academy, visit [our Reddit discussion page](#).

Get fancy








Accent your posts with ***bold*** or *_italics_* and format ``code``



```
""if (x < 0) {
  return;
}""
```

Accent your posts with **bold** or *italics* and format `code`

```
if (x < 0) {
  return;
}
```



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Announcements

★ Final Exam

The final exam for our class opens tomorrow (Sunday) night, or Monday morning for those further East. It will coincide with the release of the last two sections and the final section quiz. You shouldn't feel any pressure to take the exam right away, as you will have three weeks to complete it before the soft deadline. For those of you who are behind - this is a good time to make a push to finish.

The final exam covers only material since the midterm exam. There are 11 questions on the exam, one for each section in the second half of the course, and one general takeaway question. Each question has two variations for those of you who choose to attempt the exam more than once.

We also encourage everyone to take our class survey - if it hasn't already appeared on your class homepage, it will very soon! The survey covers some basics about you and your reflection on this course, and will help us improve the course experience for the next group of students. We realize some of you are likely to take the course a second (or even third) time, so this is a great chance to let us know what you would like us to change.


Finally, we are working on a complete bibliography for the course, and will post this as soon as possible. There will be a short version for general reading, and a long version for in-depth research. This should go up in a about a week.

We will e-mail again and make a last couple of announcements before the course ends, in order to address matters of grading, certificates, final words, gratitude, and applause.









Here's wishing everyone the best, and good luck on the final exam!

-Model Thinking Staff

Upcoming Quizzes






































-  [Quiz 7: Sections 15-16](#)
Due: Mon 5 Nov 2012 11:59:00 PM PST
-  [Quiz 8: Sections 17-18](#)
Due: Mon 12 Nov 2012 11:59:00 PM PST
-  [Quiz 9: Sections 19-20](#)
Due: Mon 19 Nov 2012 11:59:00 PM PST

New Lectures


-  [Replicator Dynamics \(4:37\)](#)
-  [The Replicator Equation \(13:29\)](#)
-  [Fisher's Theorem \(11:57\)](#)
-  [Variation or Six Sigma \(5:39\)](#)
-  [Prediction \(2:25\)](#)
-  [Linear Models \(5:02\)](#)
-  [Diversity Prediction Theorem \(11:54\)](#)
-  [The Many Model Thinker \(7:11\)](#)




▼ Lyapunov Functions (Section 11)

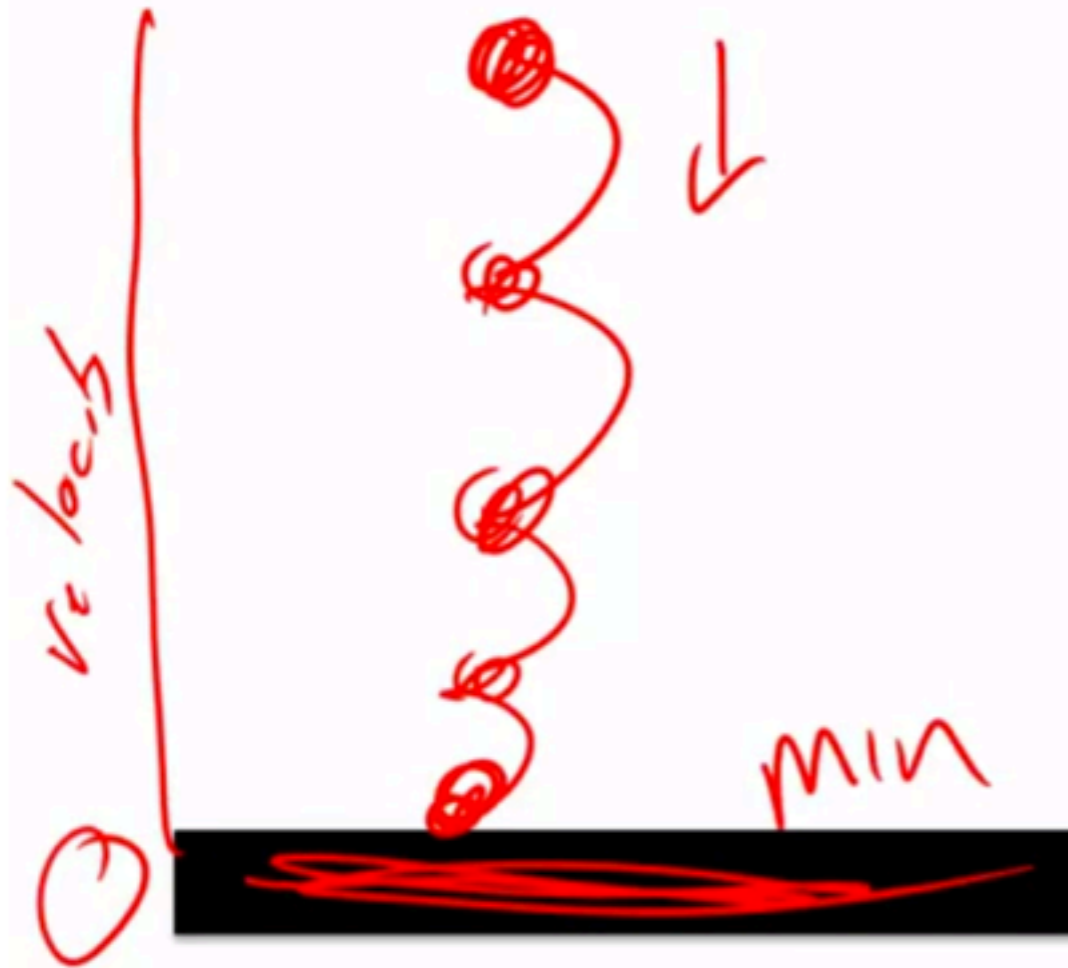
- Lyapunov Functions (9:13)        
- The Organization of Cities (12:14)      
- Exchange Economies and Externalities (9:18)      
- Time to Convergence and Optimality (8:04)      
- Lyapunov: Fun and Deep (8:40)      
- Lyapunov or Markov (7:24)      

▼ Coordination and Culture (Section 12)

- Coordination and Culture (3:37)        
- What Is Culture And Why Do We Care? (15:43)      
- Pure Coordination Game (13:48)      
- Emergence of Culture (11:01)      
- Coordination and Consistency (17:03)      

▼ Path Dependence (Section 13)

- Path Dependence (7:23)        



Physics



3

02:28 | 09:13

« Previous Press H for [keyboard shortcuts](#) Lyapunov Functions (9:13) - Speed: 1.50x + Next »

Welcome

Like 88 Tweet 14 +1 88



– Unit 1

- ✓ 1. Welcome
- ✓ 2. Outlining The Problem
- ✓ 3. Representing Hands - Question - Answer
- 4. Poker Function - Question - Answer
- ✓ 5. Understanding Max - Question - Answer
- ✓ 6. Using Max - Question - Answer
- 7. Testing - Question - Answer
- 8. Extreme Values - Question - Answer
- ✓ 9. Hand Rank Attempt - Question - Answer
- ✓ 10. Representing Rank - Question - Answer
- ✓ 11. Wild West Poker
- ✓ 12. Back To Hand Rank
- 13. Testing Hand Rank - Question - Answer

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Next >

Auto-Next: ON

Instructor Comments

Supplementary Material

Welcome to CS 212!

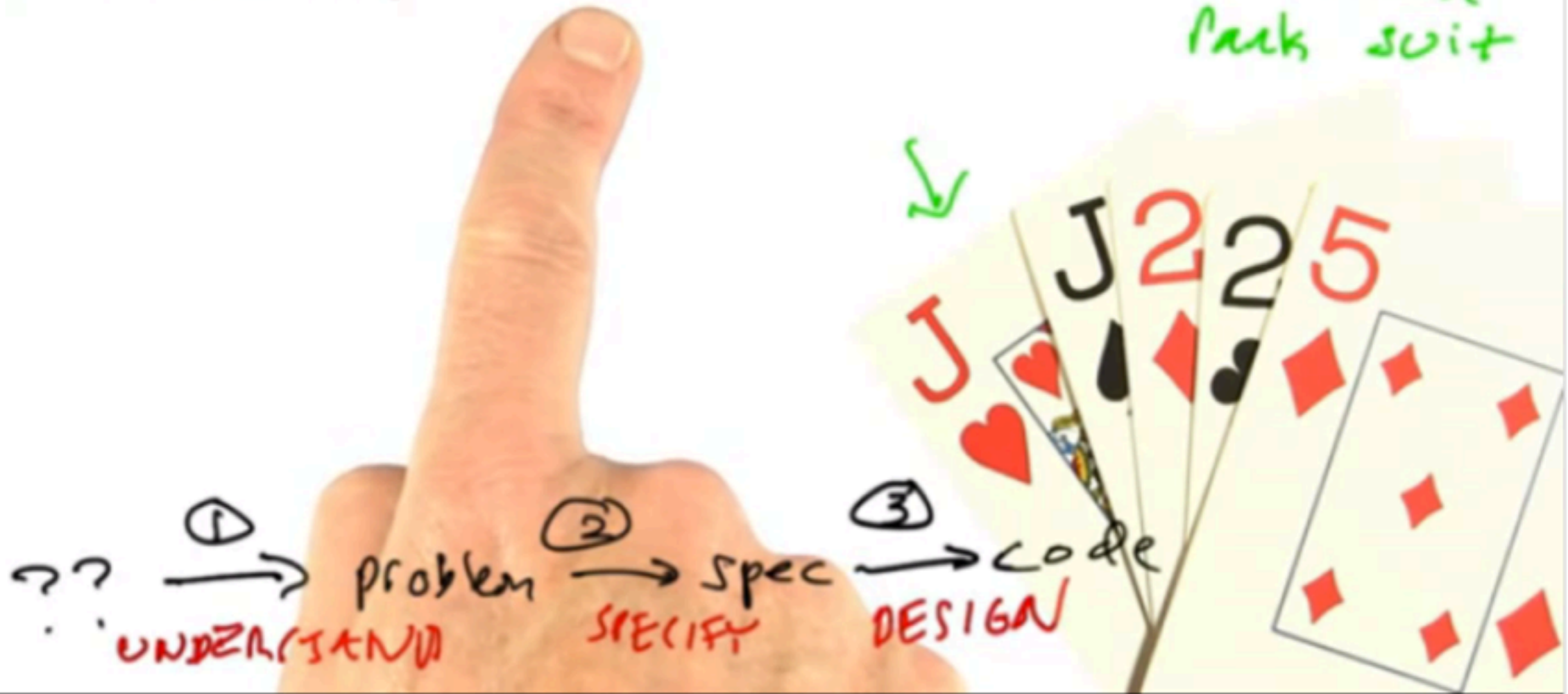
I hope you're excited to learn some new program design tools. I'm Andy, and I'll be helping you throughout the class. Keep your eyes peeled for instructor comments (which you will see here) and for supplemental videos (which you will find with the rest of the course content in the area to the right of the video).

Outlining The Problem

WRITE A POKER PROGRAM

`poker(hands) → hand`

hand.
card
pack suit



< Previous

Next >

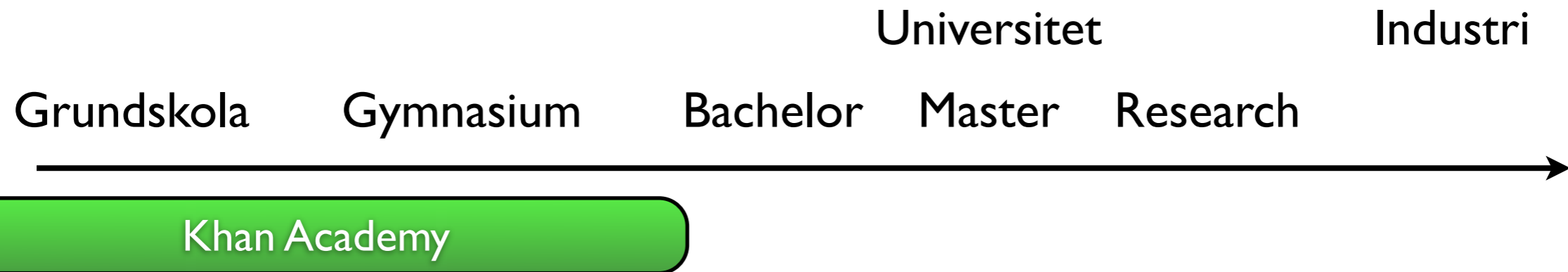
Instructor Comments

Supplementary Material

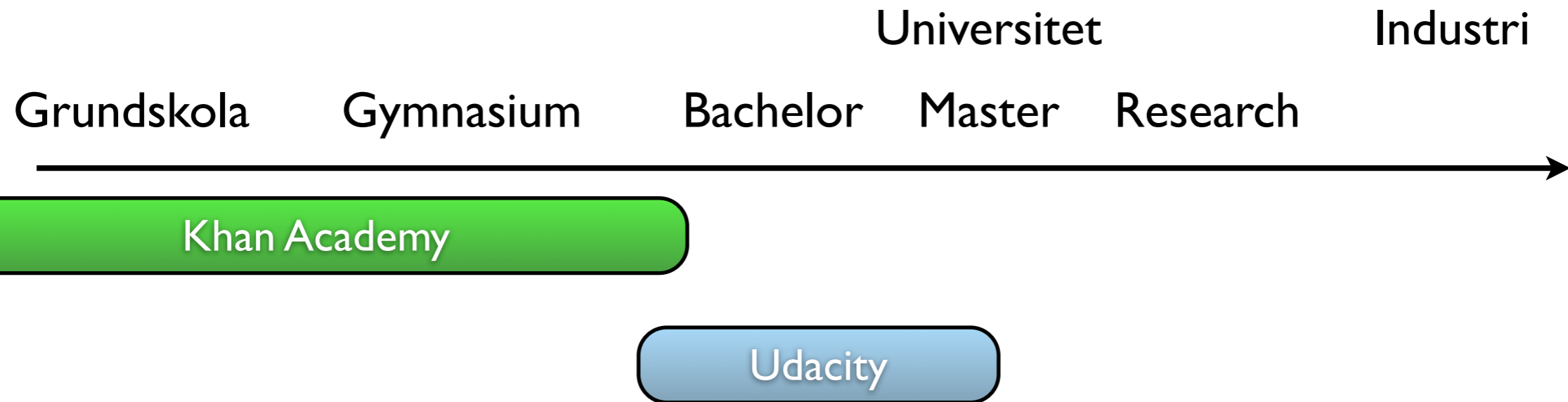
Var sker utvecklingen?



Var sker utvecklingen?



Var sker utvecklingen?



Var sker utvecklingen?

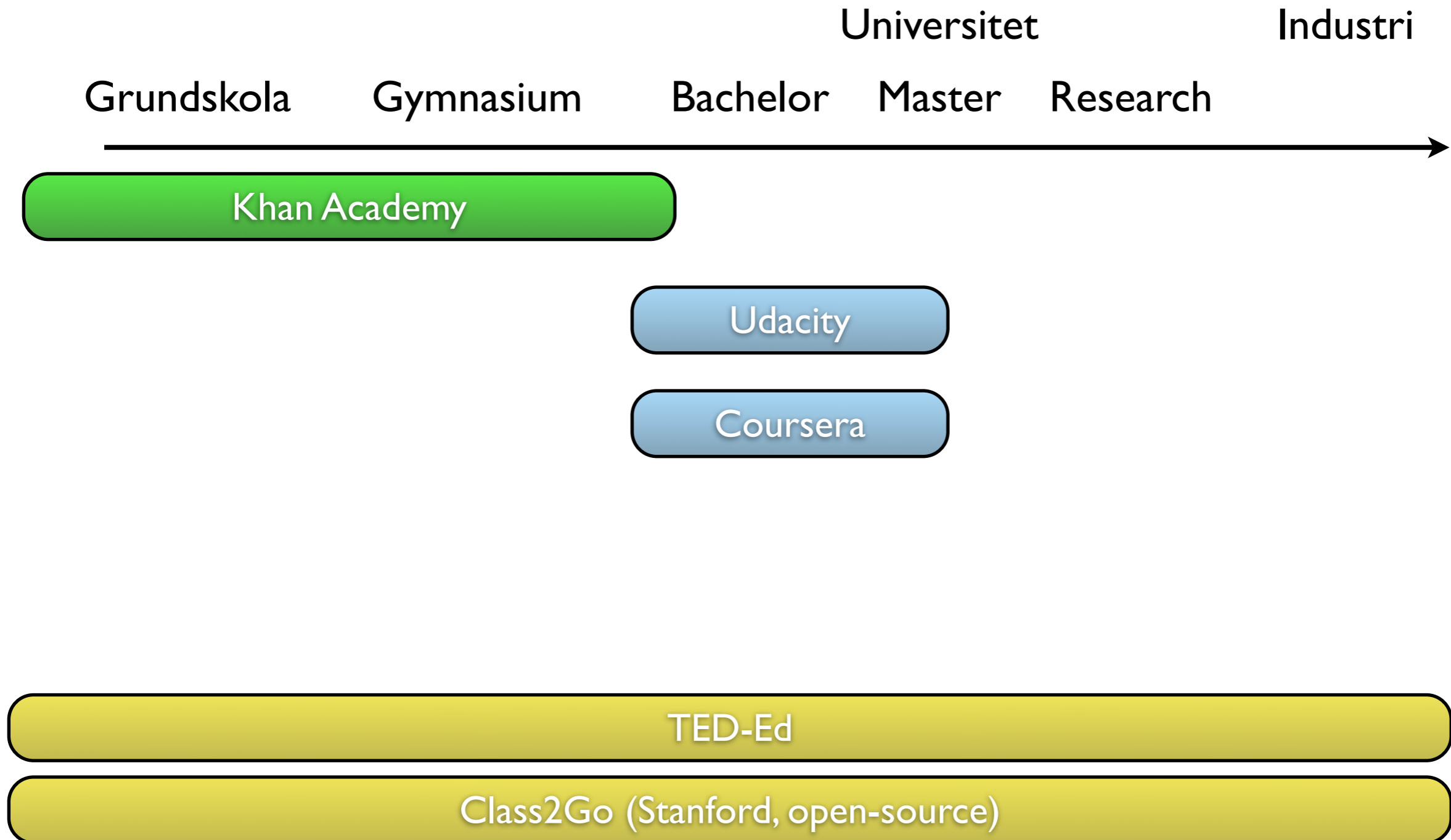


Khan Academy

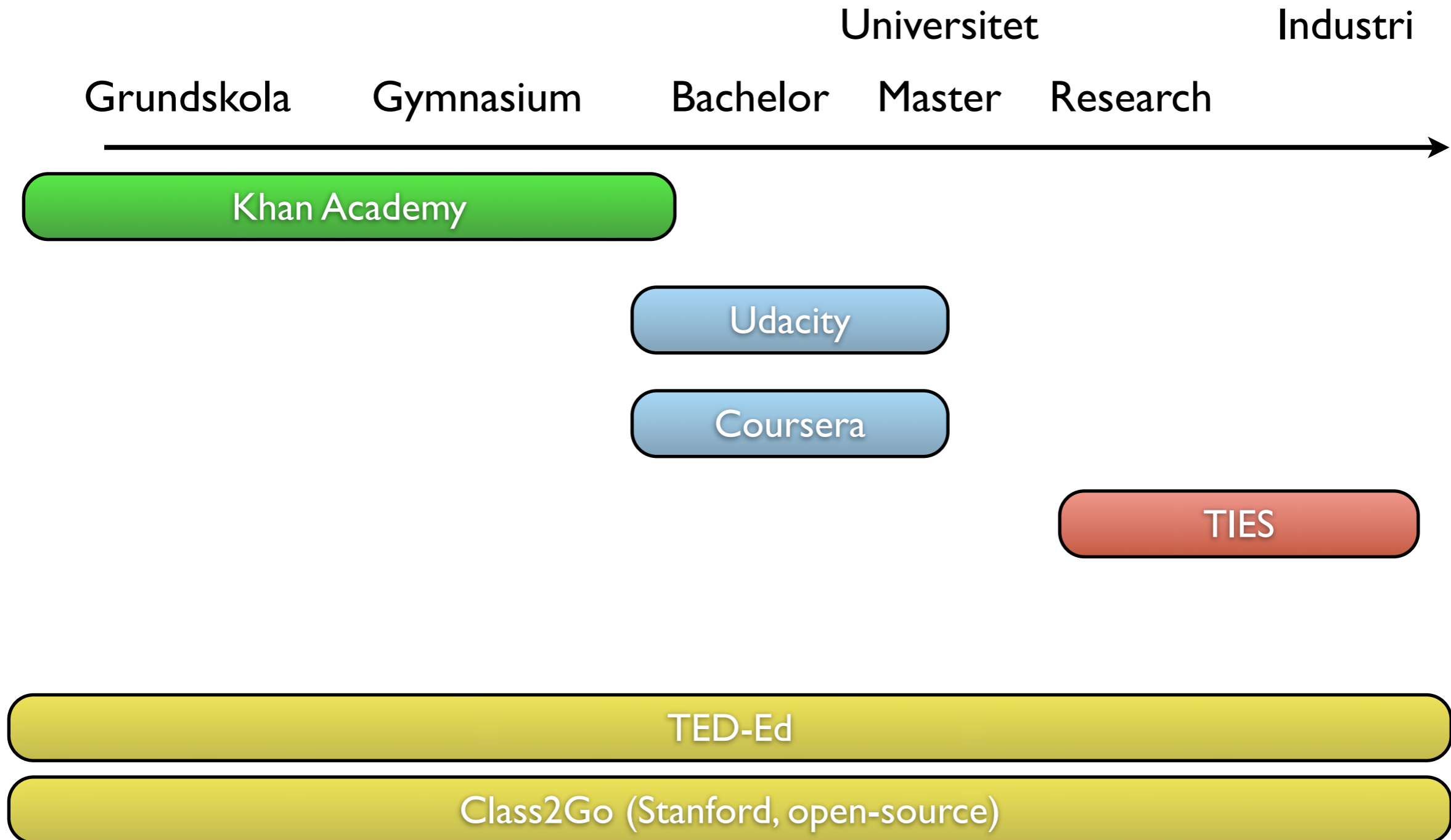
Udacity

Coursera

Var sker utvecklingen?



Var sker utvecklingen?



Hot och Möjligheter

- Om det finns bra kurser på MIT och Stanford etc, vilken roll får våra kurser?
- Vilka studenter kommer välja att “vara kvar” på Chalmers?
- Kommer det alltid vara “bättre” med social/fysisk kontakt / grupper etc?
- Finns olika nicher för online edu och våra kurser?
- Bör vi agera kring dessa frågor?

Länkar

- Frågor: robert.feldt@chalmers.se
- Our new project: swties.se
- [http://www.ted.com/talks/
peter_norvig_the_100_000_student_classroom.html](http://www.ted.com/talks/peter_norvig_the_100_000_student_classroom.html)
- udacity.com
- coursera.org
- khanacademy.org