

# Datateknik, teknisk masterprofil på I/ii

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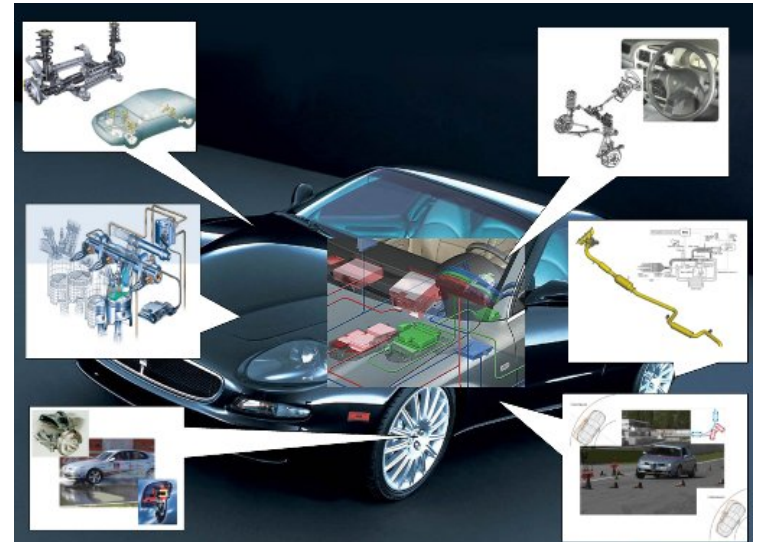
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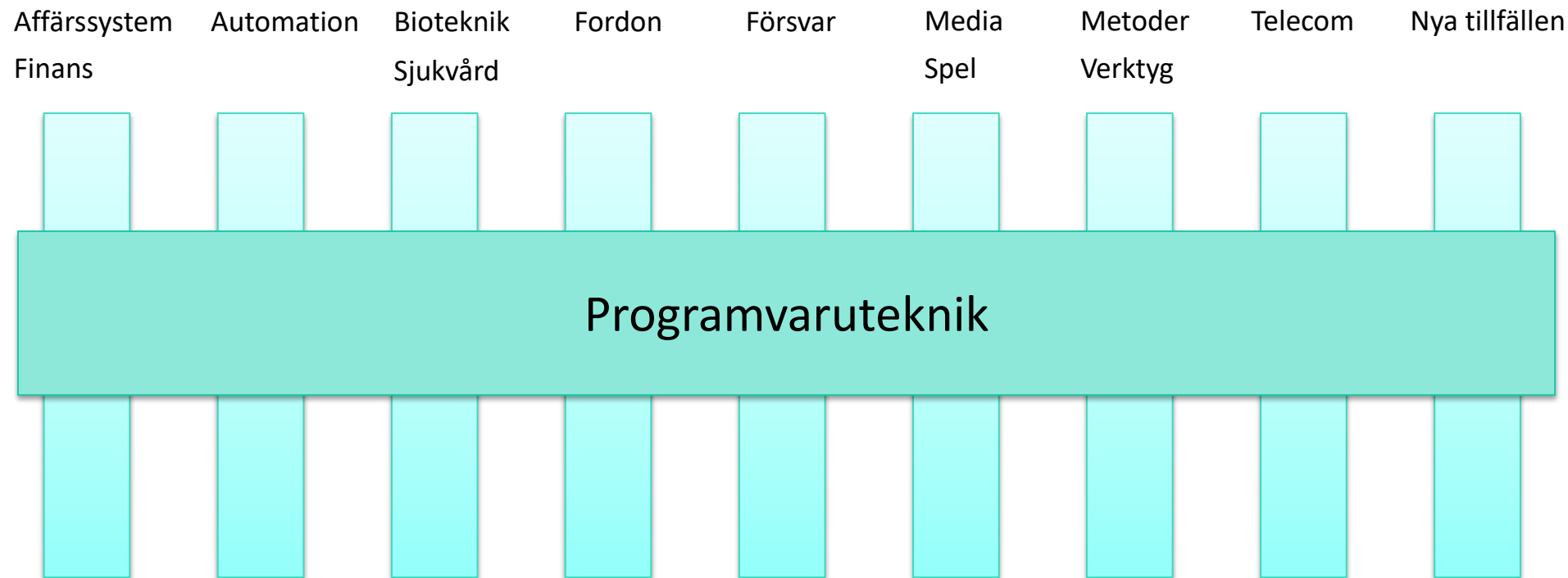
# Varför skall man läsa Id?

- Id är en **teknisk inriktning** för den som skall jobba med:
  - Programmering och användning av stora och komplexa system
  - Konstruktion av system där en dator är huvudkomponenten
  - Eftertraktad kompetens
- Visionen är att man efter några års yrkeserfarenhet skall kunna ta det **tekniska och affärsmässiga ansvaret** för dator-baserade produkter i en roll som:
  - Projektledare i en stor organisation
  - Entreprenör i ett litet företag

# Datateknik har man alltid nytta av



# Programvaruindustrin i Sverige



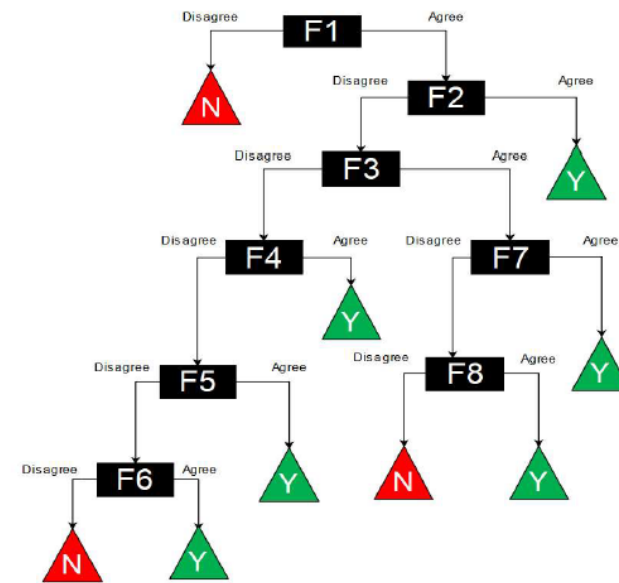
# Masterprofil -datateknik

Generella, branschöverskridande kurser:

- TDDC88 Programutvecklingsmetodik
- TDDD04 Programvarutestning
- TDDE45 Avancerad programvarudesign
- TDDE41 Programvaruarkitekturer
- TDDD89 Vetenskaplig metod
- Exjobb i datateknik
- TDDC88 och TDDD89 **måste** vara med

# Exempel på exjobb: David Lindholm på SECTRA

Decision Tree: Which Test to Automate?		Agree/Disagree
<b>Decision Point: F1</b>		
Factor 1.1	Test results are deterministic.	
Factor 1.2	Test results does not require human judgement.	
Factor 1.3	Automated comparison will not be fragile leading to many false positives.	
Factor 1.4	Tests are not instable, e.g., due to timing. Instable meaning: we must perform the test repeatedly and if it passes above a threshold we consider that the test passes.	
Factor 1.5	Tests are not instable, e.g., due to timing. Instable meaning: the results cannot be trusted at all.	
Factor 1.6	Computers are not likely to make errors when performing and evaluating these tests, e.g. test execution is not deterministic.	
Factor 1.7	Test results are easy to analyze automatically	
<b>Decision Point: F2</b>		
Factor 2.1	There are economic benefits of automating these tests.	
Factor 2.2	Tests are likely to reveal defects, i.e. high risk areas.	
Factor 2.3	The product being tested is mission critical.	
Factor 2.4	Tests cover the most important features, i.e. high importance areas.	
Factor 2.5	Frequent regression testing is beneficial or essential for this product.	
<b>Decision Point: F3</b>		
Factor 3.1	Tests are easy and straight forward to automate.	
Factor 3.2	Test automation will not require a lot of maintenance effort.	
<b>Decision Point: F4</b>		
Factor 4.1	Humans are likely to make errors when performing and evaluating these tests, e.g. tests require vigilance in execution.	
<b>Decision Point: F5</b>		
Factor 5.1	Developers have low knowledge in the product being tested, i.e. product has not been developed on for a long period of time.	
<b>Decision Point: F6</b>		
Factor 6.1	Test type is favorable for automation, i.e. tests are performance or load tests.	



Decision Point: F7		Agree/Disagree	TC Information
Factor 7.1	We make several releases of the product.		TC ID:
Factor 7.2	The product being tested is highly customizable, i.e. have much configurations.		
Factor 7.3	The lifetime of the tests is high.		TC Title:
Factor 7.4	Tests are performed on a product with a long life cycle.		
Factor 7.5	The number of builds for this product is high.		Steps:
<b>Decision Point: F8</b>		<b>Agree/Disagree</b>	
Factor 8.1	Test type is favorable for automation, i.e. tests are smoke or build verification tests.		Date:
<b>Result</b>			Performed by:
<b>Comments</b>			

# Masterprofil - datateknik

Med spets i maskininlärning(\*),  
rekommendation

- TDDC88 Programutvecklingsmetodik
- TDDE01 Maskininlärning
- TDDE07 Bayesianska metoder
- TDDE15 Avancerad maskininlärning
- TDDD89 Vetenskaplig metod
- Exjobb i datateknik

(\* ) kräver för närvarande att man söker dispens formellt,  
kontakta inriktningsansvarig med de kurser du vill läsa.

# Kompletterande kurser

Med spets i maskininlärning(\*):

- TBMI26 Neuronnät och lärande system – Tillämpad med bildbehandling och signalbehandling

Big data:

- TDDD41 Data Mining - Clustering and Association Analysis
- TDDE31 Big Data Analytics

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Frågor?

[www.liu.se](http://www.liu.se)