

# Masterverksted

~ MED REBEKKA OG JOHANNE ~

# Hva vil vi oppnå med Masterverkstedet?

- Hjelp dere i gang med å tenke og skrive tidlig
- Gi dere noen verktøy for å strukturere tanker og ideer
- Produsere noe dere kan diskutere videre med veileder
- Bli vant til å snakke om temaet og oppgaven deres med andre
- At dere ikke glemmer dere og arbeidet deres
- Gjøre det hyggelig (ikke skummelt) å skrive masteroppgave
- Et sted for dere å møtes, diskutere, utveksle erfaringer, ideer og frustrasjoner

# Forventninger og ønsker fra dere :))))))

- Komme i gang tidlig
  - Strukturere tid for feltarbeid og skriving
  - Hva bør gjøres ... og når bør det gjøres?
- Hvordan er masteroppgave annerledes fra rapporter, essay og individuelle oppgaver på bachelornivå?
- Hva slags struktur skal en masteroppgave ha?
- Teksteditor og referanseverktøy?
- Hvordan snakker jeg med veileder for å få mest ut av masterstudiet?

# Referanseverktøy & skriveprogram (og annet)

- Microsoft Word eller LaTeX (f.eks. Overleaf)
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- automatisering
- cscw + public service
- digitalization of welfare services
- ecologies
- human-supported robot work
- INS480
- in5500
- klassisk cscw
- practice
- robots
- service design / pd / design thi...
- street-level bureaucracy + discr...
- Mine publikasjoner
- Dupliserte elementer
- Ikke arkiverte elementer
- Søppelkorg

Tittel	Opphaver	Dato	Dato la. v
Speech representation and the categorization of the client in social work disco...	HALL et al.	2009	13.2.20...
The Intellectual Challenge of CSCW: The Gap Between Social Requirements and...	Ackerman	September...	13.2.20...
Coordinating Heterogeneous Work: Information and Representation in Medical...	Reddy et al.	2001	13.2.20...
Hermeneutics, information and representation	Chalmers	September...	13.2.20...
Questioning Representations	Robinson og Bannon	1991	13.2.20...
The Welfare State, Citizenship, and Bureaucratic Encounters   Annual Review of...			13.2.20...
From street-level to screen-level bureaucracy: Front-line public servants' reco...	Rapson	2018	13.2.20...
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The Social Life of Information: Updated, with a New Preface	Brown og Duguid	2017-02...	12.2.20...
What we talk about when we talk about context	Dourish	2004-02...	12.2.20...
Categories, disciplines, and social coordination	Winograd	1993-09...	12.2.20...
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Negotiating dilemmas in the practices of street-level welfare work	Hjørne et al.	2010	10.2.20...
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Exploring Trust in Digital Civics	Corbett og Le Dantec	June 8, 2...	10.2.20...
Service user experience of participation in child welfare case management	Tregeagle og Mason	2008	7.2.202...
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Everyday interaction at the front-line: The case of the Norwegian all-in-one b...	Lundberg og Syltevik	2016-01...	7.2.202...
The New Face of Government: Citizen-Initiated Contacts in the Era of E-Gover...	Thomas og Streib		7.2.202...
Rethinking Government-Public Relationships in a Digital World	Dutil et al.	April 1, 2...	7.2.202...
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Sorting Things Out: Classification and Its Consequences	Bowker og Star	2000-08...	4.2.202...
The Role of Contextual Factors in the Influence of ICT on Street-Level Discretio...	Busch	2017-01...	28.1.20...
Making activities visible: a way to patient empowerment   Proceedings of the H...			28.1.20...
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Evaluating the Promise of Human-Algorithm Collaborations in Everyday Work P...			28.1.20...
How Data Scientists Use Computational Notebooks for Real-Time Collaboratio...			28.1.20...

Info Notater Emneord Relatert

Elementtype Konferanseinnlegg

Tittel How Data Science Workers Work with Data: Discovery, Capture, Curation, Design, Creation

▼ Forfatter Muller, Michael

▼ Forfatter Lange, Ingrid

▼ Forfatter Wang, Dakuo

▼ Forfatter Piorkowski, David

▼ Forfatter Tsay, Jason

3 mer...

Sammendrag With the rise of big data, there has been an increasing need for practitioners in this space and an increasing opportunity for researchers to understand their workflows and design new tools to improve it. Data science is often described as data-driven, comprising unambiguous data and proceeding through regularized steps of analysis. However, this view focuses more on abstract processes, pipelines, and workflows, and less on how data science workers engage with the data. In this paper, we build on the work of other CSCW and HCI researchers in describing the ways that scientists, scholars, engineers, and others work with their data, through analyses of interviews with 21 data science professionals. We set five approaches to data along a dimension of interventions: Data as given; as captured; as curated; as designed; and as created. Data science workers develop an intuitive sense of their data and processes, and actively shape their data. We propose new ways to apply these interventions analytically, to make sense of the complex activities around data practices.

- Active labour market policy
- activity theory Actor Network Theory
- Administrative reform
- Administrative Staff

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File outline

Robots

```
1 \documentclass[../main.tex]{subfiles}
2 \begin{document}
3 \chapter{Robots} \label{chap:background}
4
5
6 % Skrive om novelty effect?
7
8 This chapter presents the background for this thesis.
9 First, I describe what robots are and what they are used
10 for, before I present \ac{HRI} and research related to my
11 topic --- on collaborative robots and studies on robots in
12 workplaces.
13
14 \section{What is a robot?}
15
16 The term \emph{robot} can provide different associations
17 --- ranging from the human-like we know from science
18 fiction to the machine-like industrial robots in assembly
19 sites. The field of robotics is a broad one, as the variety
20 of and sometimes conflicting definitions is proof of.
21 Historically, it was the Czech playwright Karel Capek who
22 introduced the word 'robot' in 1921. In a play that told
23 the story of how modern technology evolved, robots were
24 developed and turned to pose a threat to the humans
25 \parencite{hockstein2007history}. However, the term was not
26 popularized until the 1940s, when Isaac Asimov used it in a
27 collection of short stories. From this, robots have
28 regularly been a part of science fiction, and they have
29 served both as the human's friend and enemy. Moving from
30 science fiction to reality, robots have been a part of
31 industrial environments since the late 1950s when General
32 Motors used the term to describe the Unimate, a device that
33 assisted in the assembly of cars
```

# Chapter 1

## Robots

This chapter presents the background for this thesis. First, I describe what robots are and what they are used for, before I present **HRI!** (**HRI!**) and research related to my topic — on collaborative robots and studies on robots in workplaces.

### 1.1 What is a robot?

The term *robot* can provide different associations — ranging from the human-like we know from science fiction to the machine-like industrial robots in assembly sites. The field of robotics is a broad one, as the variety of and sometimes conflicting definitions is proof of. Historically, it was the Czech playwright Karel Capek who introduced the word 'robot' in 1921. In a play that told the story of how modern technology evolved, robots were developed and turned to pose a threat to the humans [12]. However, the term was not popularized until the 1940s, when Isaac Asimov used it in a collection of short stories. From this, robots have regularly been a part of science fiction, and they have served both as the human's friend and enemy. Moving from science fiction to reality, robots have been a part of industrial environments since the late 1950s when General Motors used the term to describe the Unimate, a device that assisted in the assembly of cars [12]. From this, the development of industrial robots exploded, before there in the later years has been introduced more sophisticated types of service robots.

Hva slags struktur skal masteroppgaven ha?

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# Hva vi skal gjøre i dag

- Snakke om tema og egen motivasjon i grupper
  - Hva er din motivasjon for oppgaven?
  - Hvorfor er temaet ditt interessant?
- Skriveoppgave: and-but-therefore
- Gi hverandre feedback
- Skriveoppgave: notater til bakgrunnskapittel
  - Hva bør en som leser oppgaven din vite?
  - Hvilke temaer bør du lese og skrive om?
  - Hva vet du om tema så langt?
  - Hva vet du ikke? Hva trenger du å vite?