Master Projects 2023-24

Presentation of Software for a Better Society (SBS) research group
Letizia Jaccheri, professor

Conferences & network building
Stays abroad
Teaching and dissemination
Research & supervision
Activist for my values: gender, green deal, art
Supervised/evaluated 60 PhD's and postdocs and on average 4 master students per year for 30 years **

Letiziacaccheri.org
Norwegian, European, and International projects

- ADA https://www.ntnu.no/ada
- IDUN https://www.ntnu.edu/idun
- EUGAIN www.eugain.eu (lead)
- Horizon CRAFT https://www.ntnu.edu/smartcities/craft
- Erasmus + Women STEM UP Home – Women Stem Up (women-stem-up.eu)
- ACM WomENcourage https://womencourage.acm.org/2023/ (lead)
- E-ladda https://www.ntnu.edu/e-ladda
- SENOBR https://www.ntnu.edu/idi/senobr (NTNU lead)
- https://www.abelia.no/50techkvinner/
10th ACM Celebration of Women in Computing womENcourage™

Welcome to the 10th ACM Celebration of Women in Computing: womENcourage™ 2023 which is hosted by the Norwegian University of Science and Technology (NTNU) in Trondheim, Norway, 20-22 September, 2023.

The theme this year is Computing Connecting Everyone. Computing is a powerful way to connect people with diverse backgrounds, ambitions, passions, personalities, and cultures, from academia and industry, in a creative re-connected world after the pandemic.

Open to all genders, womENcourage™ was initiated by ACM-W Europe® and aimed at connecting women from diverse technical disciplines and encouraging them to pursue their education and profession in computing. womENcourage™ brings together women in the computing profession and related technical fields to exchange knowledge and experience and provide special support for women who are pursuing their academic degrees and starting their careers in computing. Through a program packed with insightful topics and engaging educational and networking activities, womENcourage™ provides a unique experience of the collective energy, drive, and excellence that professional women share to support each other.

Important dates
- Poster, Workshop & Tutorial submission May 1st
- Scholarship application June 10th
- Hackathon registration opens July 22nd
- Registration opens June 1st
- Conference September 20-22

Supporters
- NTNU
Process ahead

• The main supervisor has the responsibility for accepting proposals (under suggestion of co-supervisor) - after 22/5

• We will not accept more than one student /group for each proposal
  • Recommend to also apply for projects from other supervisors
  • Projects from NORKART

• Students who are interested in research will be prioritized
Software For A Better Society

**Weekly**
- Common meeting for the group
- Personal co-supervisor meeting
- Draft reading by the co-supervisor
- Team channel for communication

**Once a Semester**
- Draft reading by the main supervisor
- Evaluation of the draft by supervisors
Expectations of SBS Masters Students

For Meetings

• General responsibilities for weekly meetings
  • Attendance
  • Etiquette
  • Note Taking
  • Lead Meetings
• Expect to meet regularly with your supervisor
  • students and supervisors will develop own rules and expectations for conducting meetings

For Projects

• Projects will become published research
  • You can participate in the process
  • Responsibility will be agreed on at the end of each semester
## Topics that will be discussed during the meetings

<table>
<thead>
<tr>
<th>Action</th>
<th>Deliverables</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research on existing literature</td>
<td>Literature review (either systematic literature review or systematic mapping study)</td>
<td>Oats’ chapter (6); <a href="https://www.researchgate.net/publication/241769442">Kitchenham SLR</a>; <a href="https://www.researchgate.net/publication/241769442">Petersen SMS</a>; Example (Farzana SLR and Alis SMS); Lesson on SLR</td>
</tr>
<tr>
<td>ACM womENCourage 2023</td>
<td>Poster</td>
<td>[How to write for a conference (video)] ; <a href="https://www.youtube.com/watch?v=Qz3z3z3z3z3z3">video 2</a></td>
</tr>
<tr>
<td>What is an empirical research? How to plan it?</td>
<td>Prepare 3 slides: description of your thesis, preliminary research question, autumn project plan (draft)</td>
<td>RQ, project plan + gantt chart, empirical references and gray literature (differences) Example</td>
</tr>
<tr>
<td>Scopus &amp; other database</td>
<td>Present your Query. Where X database and not other? Trial and error of other query are welcome</td>
<td>[How to use scopus - brief tutorial; how to create a query from RQs (could be a lesson)]</td>
</tr>
<tr>
<td>Organization of your material</td>
<td>Show your database organization</td>
<td>Mendeley, Zotero, EndNote (lesson)</td>
</tr>
<tr>
<td>NSD</td>
<td>Present your NSD module</td>
<td><a href="https://www.example.com">How to compile NSD (lesson); Example</a></td>
</tr>
<tr>
<td>Autumn project</td>
<td>Deliver the SLR (SMS)</td>
<td><a href="https://www.example.com">Example</a> (autumn project 22-23)</td>
</tr>
<tr>
<td>Thesis management</td>
<td>Present complete project plan “is my research relevant?”</td>
<td>[Being a Researcher (inspirational)]</td>
</tr>
<tr>
<td>Design study</td>
<td>Choose your data generation methods (focus group, interviews, survey, user test …)</td>
<td><a href="https://www.example.com">Methods lesson</a>; Oats’ chapter(s): (13-14-15-16)</td>
</tr>
<tr>
<td>Results outcome</td>
<td>What is your final project?</td>
<td></td>
</tr>
<tr>
<td>Thesis writing</td>
<td>Planning and Function</td>
<td><a href="https://www.example.com">Plagiarism, SMART Goals, Writing tips</a> (intro, ladder of abstraction, paragraph structure)</td>
</tr>
<tr>
<td>Collaboration / How to work together</td>
<td>Reflect on your processes form teamwork</td>
<td><a href="https://www.example.com">we have built this together by Anna Szlavi on Prezi Next</a></td>
</tr>
<tr>
<td>Data analysis</td>
<td>How to analyse data, thematic analysis, inductive/deductive approach</td>
<td>Oates, example</td>
</tr>
</tbody>
</table>
Designing Digital Psychosocial Follow-up

En anonym app der du kan snakke anonymt med leger, sjukepleier osv.
Gender and Diversity in CS: Challenges and Solutions

Main objectives:

- analyze gender balance and diversity in CS across Europe,
- examine and explore CS role models with a focus on diversity,
- design new tech solutions which contribute to solve the problem of inclusion in tech (p.e., developing an app or a website for diversity)
Gender-Inclusive CS Education: Leadership Academy

Main objectives:

• analyze data in connection with the gender aspects of CS education,
• contribute to developing a Leadership and Inspiration Academy at NTNU to facilitate gender-inclusive education,
• design new tech solutions which contribute to solve the problem of inclusion in CS education (p.e., developing an app or a website for university students)
Mentorship in Computer Science: Industry and Education

Main objectives:

• design new tech solutions which contribute to solve the problem of inclusion in CS through mentorship (p.e., developing an app or a website for female entrepreneurs or university students),

• contribute to developing a Leadership and Inspiration Academy at NTNU through mentorship research and practical solutions,

• analyze data in connection with IDUN, a mentorship program at NTNU
A collaborative game to raise children's cybersecurity awareness

Objective

- Help children (9-12 years old) to learn about cybersecurity using game-based learning
- Increasing child-parent collaboration.

We have a game idea and a paper prototype

- A collaborative cybersecurity awareness game
- A two-player maze game with quiz/questions for each player

The master thesis is expected to

- Further develop the game idea
  - Propose new ideas about the game design
  - New features, and functionalities
- Develop a digital prototype
  - Students can choose the technology they want to use
- Do user tests to evaluate the prototype.
Creating Actionable Futures, Inclusion, Mental Health, and Mapping

- Practical projects
- Gender and inclusion
- Opportunities for development and testing
Increasing Gender Diversity Leadership in Tech Entrepreneurship

- Collecting insights from users directly involved in the empirical study
- Defining the challenges of gender minorities in tech entrepreneurship
- Design and evaluate interventions that address Gender Diversity Leadership in Tech Entrepreneurship

Toward Gender Diversity in Tech Entrepreneurship: Empirical Study on Female Entrepreneurs and a Software Design Solution Proposal

Wilson, Ali Wikon

Abstract
Gründerskap i teknologibransjen er vanligvis kjent for å være et mannlig domene. Teknologisektoren inneholder de største kjønnforskjellerne innenfor entreprenørkap i dag. Norge er et av landene med lavest prosentandel kvinner som er gründere innenfor teknologi, og forskning på hvorfor denne kjønnforskjellen er så markant er svært begrenset. Bedrifter startet av kvinner er mer sannsynlig til å etablere virksomheter som utgjer en viktig forskjell for samfunnet. Dette illustrerer hvorfor dette er avgjørende at kunnenævnen i teknologi- og innovasjonsnæringer øker.

Det er en mangel på relevante og aktuelle studier om krysningen mellom mangfold og entreprenørkap innen teknologi. Målet med denne forskningen er å finne ut hvordan kunnenævnen bland norske teknologi-gründere kan økes med hjelp av teknologi i form av programvare, basert på erfaringer og innsikt fra norske kvinnelige teknologi-gründere. Forfatteren benyttet en design drevet strategi for å nå målet med forskningen, med semi-strukturerete intervjuer som datakjede. Intervjuene ble analyseret med en kvalitativ metode.

Monitoring the role of Female Students in SE Field - A study of customer-driven projects

1st Claudia Maria Cutrapi
Department of Computer Science (100) Norwegian University of Science and Technology
claudia.m.cutrapi@ntnu.no

Abstract—Context: Software Engineering (SE) is a predominant male-dominated environment, especially if we observe leadership positions. The bias against women’s ability to hold technical and managerial positions, together with the assignment of female students to jobs primarily based on interpersonal interactions, limit women’s opportunity. Objective: The goal of this research is to improve understanding of female students’ participation in software engineering projects and especially in leadership roles in order to assist an optimization of a more gender diverse course. Methods: The study collects data from 2017 to 2022 about leadership roles held by students through the years. It compares the distribution of responsibilities when active interventions are planned and when students self-assigned their roles. Using different ways of planning the study, the researchers tried to evaluate differences of roles that are primarily related with interpersonal interactions such as organizers, secretaries and writers [6]. Previous studies attempted to investigate the influence of women participation in workforce environment, that suggested an high score for women in skill related to coordination and group collaboration [8]. Nevertheless, they were never selected as leader or assigned technical management positions. The purpose of the present study is to observe how leadership roles are assigned within a software development teams in a customer-driven projects. Based on what previously observed in literature, the study is based on the following hypothesis: Female devel-
Interactive Session

• Each student presents themselves
• Name
• Study program (Datateknologi / Informatikk)
• Specialization (Software/AI/Database/Interaction Design/..)
• Interested/curious for Research/PhD
• Interest in ACM womENcourage