



WASP Graduate School
Fredrik Heintz, Linköping University
Director WASP Graduate School
WASP Kickoff 2021-01-11



The Graduate School Mission

The mission of the WASP Graduate School is to educate PhDs with skills in **strategically important disciplines** within WASP, together with a **broad knowledge of AI, autonomous systems and software development.**

Goals – Students



You should become knowledgeable **researchers** in the area of **AI, autonomous system or software**.



You should form a strong sense of **belonging** to WASP connecting you together.
You are WASP!



You should get to know Swedish **industry**.



You should form a strong and valuable **international** academic-industrial **network**.



You should strive for **excellence**.

Goals – Graduate School



We will organize **courses** and **activities** to provide you with **state-of-the-art knowledge** in **AI, autonomous systems and software**.



We will organize **courses** and **activities** that **respect** the needs of a **heterogeneous** group of students spread out over Sweden



We will provide **added value** to your PhD education.



We will provide **opportunities** to those that really want to **excel!**

Activities



Winter Conference

Yearly conference for all WASP PhD students to present their research and get friendly feedback



Courses

4-5 mandatory courses
Roughly one mandatory 6hp course per semester



Summer Schools

Usually in August



International Trip

Usually in October

WASP-AS Courses

Mandatory courses

1. Autonomous Systems I, 6hp (replaced with Autonomous Systems, 6hp)
2. Autonomous Systems II, 6hp (replaced with AI and Machine Learning, 6hp)
3. Software Engineering and Cloud Computing, 6hp
4. WASP Project Course, 6hp

WASP-AI Courses

Mandatory courses

1. Deep Learning and GANs, 6hp
2. Graphical Models, Bayesian Learning, and Statistical Relational Learning, 6hp
3. Learning Theory and Reinforcement Learning, 6hp
4. Large Scale Machine Learning, 6hp
5. Ethical, Legal, Societal and Economical Aspects of AI, 3hp

Elective courses

- Topological Data Analysis, 6hp
- Learning Feature Representations, 6hp
- Deep Learning for Natural Language Processing, 6hp
- WASP Project Course, 6hp

New Structure Moving Forward

Mandatory for all

- Ethical, Legal, Societal and Economical Aspects of AI & AS, 3 ECTS

Select 2 out of 3 courses (provide a foundation for that area):

- Autonomous Systems, 6 ECTS
- Artificial Intelligence and Machine Learning, 6 ECTS
- Software Engineering and Cloud Computing, 6 ECTS

At least 2 more courses among all the courses including the ones above

- Mathematics for Machine Learning, 6 ECTS (new)
- Interaction, Collaboration and Visualization, 6 ECTS (new)
- WASP Project Course, 6 ECTS
- Deep Learning and GANs, 6 ECTS
- Graphical Models, Bayesian Learning, and Statistical Relational Learning, 6 ECTS
- Learning Theory and Reinforcement Learning, 6 ECTS
- Scalable Data Science and Distributed Machine Learning, 6 ECTS
- ...

Courses 2021

Spring

1. Deep Learning and GANs, 6hp
2. Software Engineering and Cloud Computing, 6hp

Fall

1. WASP Project Course, 6hp
2. Graphical Models, Bayesian Learning, and Statistical Relational Learning, 6hp
3. Topological Data Analysis, 6hp

WASP Graduate School Management Group (GSM)

- Director: Fredrik Heintz, LiU
- Coordinator: Petronella Norberg, LiU
- Group members
 - Umeå: Paul Townend (SW/Cloud)
 - Uppsala: Benny Avelin (M)
 - KTH: Florian Pokorny (AI)
 - LiU: Daniel Axehill (AS)
 - Örebro: Amy Loutfi (AI)
 - Chalmers: Torbjörn Lundh (M)
 - Lund: Elin Topp (AI/AS)

Take the opportunity that
WASP is
and strive to
do the most of it!