II. Teaching Experience

A. Coverage of educational experience

Experience and responsibilities in teaching. Description of my role and contribution.

I have served as the **main teacher** for the following courses at Aalto University:

- CS-C3210 "Machine Learning: Basic Principles"; developed significantly further after taking over in 2015; co-teachers: Dr. Jorma Laaksonen (2015), Dr. Markus Heinonen (2016-2017). This course achieved its highest student rating in the 2018 edition when I was teaching the course as the only teacher. This course development resulting in the textbook

  Jung, A. (2022). Machine Learning: The Basics. (Machine Learning: Foundations, Methodologies, and Applications). https://doi.org/10.1007/978-981-16-8193-6

- CS-C3240 "Machine Learning"; created from scratch; co-teacher Prof. Stephan Sigg; almost 1000 student registrations from all six schools of Aalto University.
- CS-EJ3211 "Machine Learning with Python"; created from scratch; co-teacher Dr. Shamsiiat Abdurakhmanova; most popular course at https://fitech.io/en/ !
- CS-E4800 "Artificial Intelligence"; created from scratch; co-teacher Dr. Tomi Janhunen;
- CS-EJ3311 "Deep Learning with Python"; created from scratch; co-teacher Dr. Shamsiiat Abdurakhmanova
- CS-E4740 "Federated Learning"; created from scratch; (pilot was offered as"Special course in Machine learning and Data science: Networked Federated Learning, Lectures" in 2022.)
- CS-E4020 "Convex Optimization for Big Data"; created from scratch; course material resulted in the review paper

  Jung A (2017) A Fixed-Point of View on Gradient Methods for Big Data. Front. Appl. Math. Stat. 3:18. doi: 10.3389/fams.2017.00018

- Summer school "Human-centered Machine Learning" (2022), created from scratch;

Substance-related teaching activities at other educational institutions nationally and internationally. I have been also very active in teaching short courses (boot-camps) for different adult-learner providers.

- My courses CS-EJ3211 ("Machine Learning with Python") and CS-EJ3311 ("Deep Learning with Python") are among the most popular courses at the **Finnish network university** https://fitech.io/en/.
- Main teacher for the "Machine Learning" program 2019-2020 at https://www.integrify.io/
- Main teacher for the two-day "Machine Learning and Artificial Intelligence Workshop" during Sept. 2019 offered at Salo IoT campus https://www.saloiotcampus.fi/fi/tapahtuma/255/koneoppimisen-ja-keinoalyn-workshop
- I served as main teacher for the Summer school "Human-centered Machine Learning" (2022) within the **University Network for Innovation, Technology and Engineering (Unite!)**, https://www.unite-university.eu/whatsnew/learn-the-essentials-of-machine-learning-systems-this-summer
- Two-day course on "Machine Learning" within the European Plenoptima Training School 2 on "Machine and Deep Learning for Plenoptics" https://plenoptima.eu/ts2/programme/

Positions as an expert in executive education and non-university substance related education or training I am very active in the development and delivery of executive education programs.

- Main faculty of the training program "Diploma in Artificial Intelligence" offered yearly by Aalto Executive Education, 2019 - 2022.
- Faculty lead for the training program "Aalto-SUTD Modular Master in Technology and Management" offered by Aalto Executive Education Academy Pte Ltd (Singapore).
- Faculty lead for the tailored training program "Swedish NAO Data Science Program" offered by Aalto Executive Education during 2022-2023.

Experience in collaborating with colleagues in teaching courses/modules /programmes.

Extensive and instrumental for my growth as a teacher and educational leader. I also strongly encourage you to reach out to my co-teachers, which can be found from the corresponding course pages, and ask them for their experience.

How my experience-based knowledge is contributing to my teaching competence and student learning outcomes (especially if you have extensive teaching experience) Profoundly. I try to extract maximum information from my experience,