

Generative Modeling

Vinay Setty

vinay.j.setty@uis.no



University
of Stavanger



Department of Electrical Engineering and Computer Science
University of Stavanger

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Teaching Staff

Course Structure

Projects and Assignments



Vinay Setty (<http://vinaysetty.com>)

- I am from India, did my PhD at Oslo (University of Oslo), Postdoc in Germany (Max-Planck Institute for Informatics)
- Associate Professor at UiS from 2017.
- Founded a startup (<https://factiverse.ai>)
- Deputy leader of IAI research group (<http://iai.grop>)
- 60-70% of the lectures (VAE, GANs, LLMs)
- Sometimes will be at lab hours
- Close project supervision
- Appointments by email (vinay.j.setty@uis.no) or small things can be posted in discord general channel (or dm for personal matters.)



Petra Galuscakova (<http://galuscakova.github.io>)

- ▶ I am from Slovakia, I did a PhD at Charles University in Prague (Czech Republic), then a postdoc at the University if Maryland (US) and at the University of Grenoble (France).
- ▶ Associate Professor at UiS since 2023, I am part of IAI group
- ▶ My background is in NLP, working on Information Retrieval, experiences with multilingual and multimodal applications
- ▶ Lectures on vision and multimodal models and applications
- ▶ Appointments by email (petra.galuscakova@uis.no) or small things can be posted in discord general channel (or dm for personal matters.)



Gabriel Iturra-Bocaz (<https://giturra.cl/>)

- ▶ Teaching Assistant for this course during the current semester.
- ▶ I will be present during lab sessions, and you can also make appointments or request help by email (gabriel.e.iturrabocaz@uis.no).
- ▶ I am from Chile and hold a Master's degree in Computer Science from the University of Chile.
- ▶ I am currently pursuing a PhD in Computer Science at the University of Stavanger, supervised by Dr. Petra Galuscakova.
- ▶ My background is NLP and IR. My research focuses on extending LLMs capabilities using memory modules.



- ▶ For updated info and detailed schedule see
<https://github.com/dat560-2026/info>
- ▶ $2 + 2 + 2 = 4$ hours lecture + 2 hours lab
- ▶ Lectures:
 - In-person lectures.
 - Active discussion is required.
 - Hands on coding examples.
 - Exercises (helps towards exam).
 - Kahoot quizzes (fun way to recap).



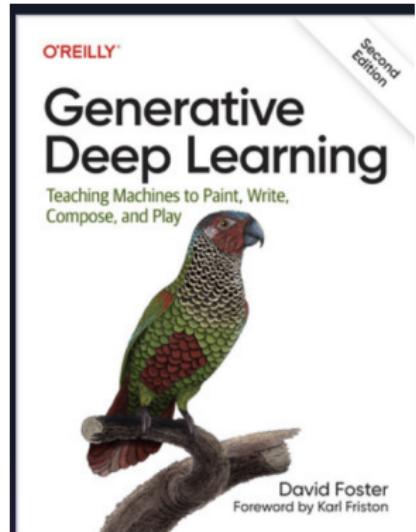
Assignments, Project and Exam.

- ▶ 3 mandatory assignments (pass/fail) all of them must be approved to be eligible to take the exam
- ▶ A mini project (counts for 40% of the grade). The grades are assigned based on a report (around 10 pages), presentation and code.
- ▶ Written digital exam in Inspera (60% of the grade)



- ▶ Part 1: Classical generative models: Autoencoders, VAE, GANs
- ▶ Part 2: Transformers, LLMs, pre-training, post-training, prompting
- ▶ Part 3: Vision transformers, diffusion models, multimodal models.
- ▶ Part 4: Applications.

Generative Deep Learning, 2nd Edition by David Foster [1]



<https://www.oreilly.com/library/view/generative-deep-learning/9781098134174/>



- ▶ We will use Github Classroom platform for submissions and grading.
More info here: <https://github.com/dat560-2026/info/blob/main/signup.md>
- ▶ You will get invite to join the classroom next week.
- ▶ You need to pass some hidden tests and get at least 80% of points to pass.
- ▶ Assignments must be approved personally by the TA or one of the lecturers to qualify. The TA might ask for some clarification questions, you need to be able to demonstrate that your understand the code you submitted.
- ▶ Approval can be done any time after the deadline (not necessarily on the day of the deadline.)

Assignments (cont.)



- ▶ Assignment 1: Train a VAE from scratch. No external libraries allowed. Due on **28.01.2026**
- ▶ Assignment 2: Pre-train a toy LLM from scratch. Due on **19.02.2026**
- ▶ Assignment 3: Compare prompting vs fine-tuning techniques for a multimodal task. Due on **12.03.2026**

Bibliography



- [1] D. Foster, *Generative deep learning.*" O'Reilly Media, Inc." , 2022.