

# Probabilistic Inference

## *Logistics and Expectations*

---

January 15, 2019

# Course outline

1. Graphical models
2. Gaussian processes
3. Bayesian optimization
4. Logistic regression
5. Sampling
6. Variational inference
7. (Implicit models)

# Logistics

- **Website:** <https://tinyurl.com/2019-493>
- **Lectures**
  - Tuesdays, 16:00 - 18:00 (308)
  - Fridays, 11:00 - 13:00 (340)
- **Coursework (code submission via LabTS)**
  - Gaussian processes
  - Logistic regression and MCMC
  - Variational inference
- **Test (assessed)**
  - Week 5
- **Tutorials/Labs**
  - First: 25/1 (lab)

# Reading material

- [Bishop: Pattern Recognition and Machine Learning](#)
- Murphy: Machine Learning
- [MacKay: Information Theory, Inference and Learning Algorithms](#)
- [Rasmussen & Williams: Gaussian Processes for Machine Learning](#)

# Expectations

---

# Pre-requisites

- **CO-496**
  - Linear algebra
  - Vector Calculus
  - Statistics and Probability Theory
  - Bayesian Linear Regression
- **Python**

# Lectures and revision

- Lectures should give you a **general understanding** of the problem
- Ask questions in class or on Piazza
- **Don't revise just based on the slides**
- You will need to **look at the learning/reading material provided** in the slides