

Course Administration

COMPSCI 762: Foundations of Machine Learning

Instructors: Kaiqi Zhao and Joerg Wicker

Lectures & Tutorials

- Lectures:
 - Online – Zoom link available on Canvas (Weeks 1-7)
 - Lecture rooms (if in-person after the mid-term break):
 - Monday 16:00 to 17:00, Old Govt Hse, Room G36
 - Thursday 15:00 to 16:00, Biology Building, Room 100
 - Friday 15:00 to 16:00, Biology Building, Room 100
 - All lecture recordings will be uploaded on Canvas
- Tutorials (Tutor: Luke Chang):
 - Online – Zoom link will be available on Canvas
 - In-person:
 - Monday 8-9am, 303-G16
 - Tuesday 11am-12pm, 303-155
 - Thursday 12pm-1pm, 303-155

COMPSCI 762 Instructors

- Dr. Kaiqi Zhao (Course Coordinator)
 - Home page: <https://kaiqi.blogs.auckland.ac.nz/>
 - Email: kaiqi.zhao@auckland.ac.nz
 - Office: 303S-492
 - Office hours: Tuesdays 2pm – 3pm
- **Education:** Nanyang Technological University, Singapore
- **Current research activities:**
 - Efficient and effective methods for mining geospatial data including geo-tagged microblogs, taxi GPS traces, points-of-interest.
 - Anomalous GPS trajectory detection
 - User mobility mining from location-based social networks
 - Geographical topic modeling
 - Knowledge base & NLP
 - Legal document understanding & reasoning



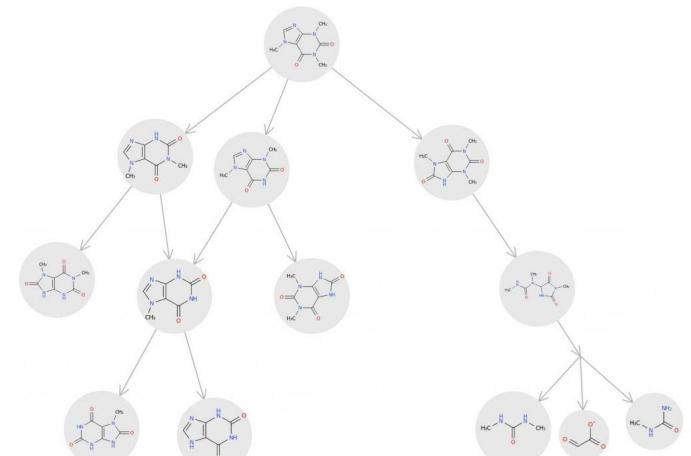
COMPSCI 762 Instructors

- Dr. Joerg Wicker
 - Home page: <https://wicker.nz/>
 - Email: j.wicker@auckland.ac.nz
 - Office: 303-526
 - Office hours: Wednesdays 3pm - 4pm
- Education: Technical University of Munich
- Current research activities:
 - Machine Learning and its interdisciplinary application
 - Computational Sustainability
 - Many projects in chemistry
 - Adversarial Learning
 - Bias
 - Multi-Label Learning ...

enviPath | THE ENVIRONMENTAL CONTAMINANT BIOTRANSFORMATION PATHWAY RESOURCE

enviPath is a database and prediction system for the microbial biotransformation of organic environmental contaminants. The database provides the possibility to store and view experimentally observed biotransformation pathways. The pathway prediction system provides different relative reasoning models to predict likely biotransformation pathways and products. You can try it out below.

[Learn more >>](#)





Lecture Topics

Weeks	Topics	Instructor
1-2	Introduction/Decision trees/Fundamental of learning	Kaiqi Zhao
3-4	Regression/Preprocessing	
5	Bayesian learning	
6-7	Neural networks	
	Break ☺	
8	Support vector machine and kNN	Joerg Wicker
9	Ensemble	
10	Clustering analysis	
11	Association rule mining	
12	Outlier detection	

Assessment Overview

- Must pass theory and practical
- **Practical (40%):**
 - Individual assignments (**30%**)
 - 3 Programming assignments (each **9%**)
 - Submitting Multiple-Choice Questions (MCQs) on PeerWise (**3%**)
 - Tutorial work in groups (**5%**)
 - Reflective writing (**5%**)
- **Theory (60%)**
 - Test (**20%**) – 1 hour, online in Week 7
 - Final Exam (**40%**)

PeerWise MCQs (3%)

- PeerWise (https://peerwise.cs.auckland.ac.nz/at/?uo_a_nz) is a platform for you to create, share, evaluate and discuss practice questions.
 - **Join with the course ID: 24533 and your UPI**
- You can submit Multiple-Choice Questions (MCQs) and the solutions to PeerWise through out the whole semester.
 - To get full marks, you need to
 - Submit **at least 6 questions (with at least four options)** covering different topics in total (2%)
 - Answer/Comment **at least 6 questions** from other students (1%)
- Why you want to participate in the PeerWise learning activity?
 - It worths 3% marks to your final grades!
 - The teaching team will select 1-2 questions from the submitted MCQs for the test/exam.
 - We may pick some of the submitted MCQs to discuss (in group) in some of the lectures.

Tutorials (5%) - Tentative

- Tutorial schedule:
 - 11 weeks of tutorials from Week 2 to Week 12.
 - We provide three sessions of the same content each week. You only need to attend the one you enrolled in.
- Content:
 - The tutorial in Week 2 is about the basics of coding in Python
 - Each tutorial in Week 3-12 will discuss (**in-group**) the tutorial questions related to the topics taught in the previous week.
- Assessment:
 - **60% - present your solution** to tutorial questions in one of the weeks from Week 3-12.
 - **20% - attend the 10 tutorials** from Week 3-12. You will get part of the marks if you don't participate in any of the 10 tutorials.
 - **20% - ask questions** about others' solutions in **at least one tutorial session** from Week 3-12.



Tutorials (5%) - Tentative

- Tutorial groups:
 - Students enrolled in the same tutorial session **form groups of 4 students.**
 - Work on the tutorial questions and present your solution in one of the weeks from Week 3-12. **You only need to present your solution ONCE during the semester!**
 - **Release of questions** - **ONE** week prior.
 - E.g., The questions of Week 3 will be released on the Monday of Week 2.
 - **Submission:** Submit your solution on Canvas before Friday 11:59pm NZST in the same week of the release of the questions.
 - E.g., If you present the solution in Week 3, you need to submit your solution by Friday 11:59 pm NZST in Week 2.
 - **Presentation:** Your presentation of solution is **up to 20 minutes**. Each group member will need to present at least one (sub-)question to get the marks. After your presentation, peers and the tutor will comment on your solution.
- Submit **your group information** and **your (top-3) choices of presentation week** on Canvas by March 4, Friday 11:59pm NZST.



Reflective Writing (5%)

- Write down your reflections on the course content and assignments
 - Your reflections should be summarized within one page (single-column).
- Rubrics (Steven Jones, Office of Service Learning, IUPUI.):
 - Clarity, Relevance, Analysis, Interconnections, self-criticism
 - Details are on Canvas
- Read more: <https://learningessentials.auckland.ac.nz/key-study-skills/reflection-and-introspection/>
- Example of reflective writing:
<https://content.bridgepointeducation.com/curriculum/file/d2d22cad-7f47-4052-bb5a-98a3a4f2d151/1/Sample%20Reflective%20Writing.pdf>

Assignments due dates

- **Coding assignments:**

Assignment	Due	Assignment Coordinator
A1	Week 4 Friday, 23:59 NZST, 25 March 2022	Kaiqi Zhao
A2	Week 7 Friday, 23:59 NZST, 29 April 2022	Kaiqi Zhao
A3	Week 10 Friday, 23:59 NZST, 20 May 2022	Joerg Wicker

- **Reflective Writing:**

- Week 12 Friday, 23:59 NZST, 3 June 2022

- **Late submissions:**

- Submission within the first 24 hours after the deadline: -15% of maximum marks
 - Submission after 24 hours after the deadline, but within 48 hours: -30% of maximum marks
 - After 48 hours, no submission is possible.



Plagiarism

- Plagiarism defined:
 - “*Using the work of other scholars or students when preparing coursework or writing an examination and pretending it is your own by not acknowledging where it came from.*”
- Seeking advice:
 - Course coordinators, lecturers or tutors are the appropriate people with whom you should discuss how to appropriately use and acknowledge the work of others.
- Consequences:
 - **Cheating is viewed as a serious offence by The University of Auckland.** Penalties are administered by the Discipline Committee of the Senate, and may include suspension or expulsion from the University.

How to avoid plagiarism?

- Always do individual assignments **by yourself**.
- Never loan your code to another person.
- Always reference the source for text you copy as part of the answer to an assignment.
- IMPORTANT: You should check out this link for more details on how to reference properly: <https://learningessentials.auckland.ac.nz/referencing/>
- WARNING: If you are scored highly on Turnitin - you may be processed and asked to complete form AS-75



Learning supports

- **CANVAS:**
 - Slides and lecture recordings.
 - Textbooks, reading materials, references, etc.
- **Piazza:**
 - Piazza is a forum for you to help each other
 - There is a 24-hour timer on Piazza, where we won't reply to the questions, however, you are free to respond to each other anytime
 - This provides an opportunity for peer collaboration and team building
 - Before you ask on Piazza, check if others have asked the question.
- **PeerWise:**
 - Think of your own questions and leverage the PeerWise platform to help each other.

Common questions

- **Q:** I have a question on content, assignment, tutorials.
- **A:** If you have a query that is not of a personal nature, please post on Piazza, or alternatively, we have office hours

- **Q:** I have a question on my assignment marks, who do I approach?
- **A:** Approach the marker in the first instance. If the marker can't answer the question, then contact the assignment coordinator.

- Class rep?

- Questions?