Week 1

Essential reading: Russel and Norvig’s book “Artificial Intelligence: A Modern Approach”, Section 3.1 “Problem-Solving Agents”.Links to an external site.

Recommended (but not essential) reading: Russel and Norvig’s book “Artificial Intelligence: A Modern Approach”, Section 3.2 “Example Problems”.

Essential reading: Russel and Norvig’s book “Artificial Intelligence: A Modern Approach”, Section 3.4 until the end of 3.4.1 “Breadth-First Search”.

Recommended reading: Appendix A.1 of Russel and Norvig’s book “Artificial Intelligence: A Modern Approach”.Links to an external site.

Week 2

Essential reading: Russel and Norvig’s book “Artificial Intelligence: A Modern Approach”, Section 3.4.3 “Depth-First Search”; Russel and Norvig’s book “Artificial Intelligence: A Modern Approach”, Section 3.4.4 “Depth-Limited Search” and 3.4.6 “Comparing Uninformed Search Strategies”.

Essential reading: Russel and Norvig’s book “Artificial Intelligence: A Modern Approach”, Section 3.5 “Informed (Heuristic) Search Strategies” (before section 3.5.1) and Section 3.5.2 “A\* Search: Minimizing the Total Estimated Solution Cost”.

Essential reading: Russel and Norvig’s book “Artificial Intelligence: A Modern Approach”, Section 3.5.2 “A\* Search: Minimizing the Total Estimated Solution Cost” and Section 3.6 until the end of Section 3.6.2 “Generating Admissible Heuristics From Relaxed Problems”.

Background reading (read it if you wish to expand your knowledge on the topic): Russel and Norvig’s book “Artificial Intelligence: A Modern Approach”, Section 3.5.1 “Greedy Best-First Search” and Section “3.5.3 Memory-bounded heuristic search”.

Background reading (read it if you wish to expand your knowledge on the topic): Russel and Norvig’s book “Artificial Intelligence: A Modern Approach”, Section 3.6.3 “Generating Admissible Heuristics From Subproblems: Pattern Databases” and “3.6.4 Learning Heuristics from Experience”.

Week 3

Essential reading: Russel and Norvig’s book “Artificial Intelligence: A Modern Approach”, Section 4.1 “Local Search Algorithms and Optimization Problems”, untilSection 4.1.1 (Hill Climbing), inclusive. You can access the book here.

Essential reading: Minku's Chapter 2: Introduction to Search-Based Optimization, in Introduction to Computational Intelligence: An IEEE Computational Intelligence Society Open Book. (Leandro L. Minku, George G. Cabral, Marcella Martins and Markus Wagner Eds.). You can access the book hereLinks to an external site..

Background reading (optional, read if you are interested in learning more): Ceschia, Di Gaspero and Schaerf's Chapter 3: Local Search, in Introduction to Computational Intelligence: An IEEE Computational Intelligence Society Open Book. (Leandro L. Minku, George G. Cabral, Marcella Martins and Markus Wagner Eds.). You can access the book hereLinks to an external site..

Week 4

Essential reading: Russel and Norvig’s book “Artificial Intelligence: A Modern Approach”, Section 4.1.2 “Simulated Annealing”. You can access the book here.

Essential reading: Minku's lecture notes: Dealing with Constraints. You can access them here Download here.

Background reading (optional, read if you are interested in learning more): Alberto Franzin, Thomas Stutzle's Chapter 4: Simulated Annealing by Alberto Franzin, Thomas StutzleChapter 4: Simulated Annealing, in Introduction to Computational Intelligence: An IEEE Computational Intelligence Society Open Book. (Leandro L. Minku, George G. Cabral, Marcella Martins and Markus Wagner Eds.). You can access the book hereLinks to an external site..

Background (optional, read if you are interested in learning more): Carlos Coello, A Survey of Constraint Handling Techniques used with Evolutionary Algorithms, Laboratorio Nacional de Informática Avanzada, 1999. Read sections 1-3, section 4 until the end of section 4.1, and section 4.8. Available at: https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.43.9288&rep=rep1&type=pdfhttps://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.43.9288&rep=rep1&type=pdfLinks to an external site.

Week 5

NONE

Week 6

The regression part of Section titled "Linear regression and classification" in the textbook by Russell & Norvig (Sec. 19.6 in the new edition; it was Sec 18.6. in the third edition).

Week 7

The classification part of Section titled "Linear regression and classification" in the textbook by Russell & Norvig (Sec. 19.6 in the new edition; it was Sec 18.6. in the third edition).

Week 8

Essential reading: Russel and Norvig’s book “Artificial Intelligence: A Modern Approach”, Section 19.7 “Nonparametric Models”.Links to an external site.