

Advanced:

***This course is very focused on competitive coding/contest preparation and we work on problems throughout the course**

Lesson #	Topic/Content Covered
Lesson 1	Sorting Algorithms
Lesson 2	Binary and Linear Searches
Lesson 3	Binary Trees and Traversing
Lesson 4	Hashtables and Hashmaps
Lesson 5	Complex Recursion
Lesson 6	Greedy Algorithms: Kruskal's and Dijkstra's Algorithm
Lesson 7	Graph Theory (BFS and DFS)
Lesson 8	Working on more challenging Contest Problems + Any other related topics Students are interested in

Artificial Intelligence/Machine Learning:

Lesson #	Topic/Content Covered
Lessons 1 & 2	Intro into AI and Neural Networks
Lessons 3 & 4	Deep Dive into Convolutional Neural Networks
Lessons 5 & 6	Working with CNNs for Cancer Detection
Lessons 7 & 8	Students work on their own Advanced Models or Class builds a Model together