Algorithm Analysis And Design

Project Proposal - IntuBuilder

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Learning new algorithms has always been a challenging task for beginners. Let alone grabbing the intuition of how the algorithm works under the hood is an even challenging problem. There are many people who just memorize the algorithms in the start rather than really learning how does it work under the hood, many are never able to develop the intuition for that,

My project which I am calling “IntuBuilder” is an attempt to solve this exact problem by providing interactive and visual proofs of how an algorithm works underneath the surface along with providing underlying theory and concepts of the various algorithms in a fun and interactive way so that the processes of learning and building intuition of algorithms becomes easier for everybody.

The project itself is built in “Python” language which uses the ‘Pygame” framework to deliver interactive and visual proofs for algorithms.

Each algorithm will contain a wiki page and a help menu.

- The main tool through which we can interact and visualize the algorithm.
- The wiki page will have all the theory and resources to master the algorithm
- And the help menu will guide us on how to use the tool to visualize and interact with the algorithm.

The project itself will cover visualization, analysis, and theory of algorithms falling under the following domain:

- Graph Algorithms
- Fast Fourier Transformation
- Sorting Algorithms
- Huffman encoding
- Dynamic programming Algorithms
- Some basic algorithms like Fibonacci etc.