TED UNIVERSITY

CMPE 491 / SENG 491 Senior Project

SyntaxSavior Project Proposal

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Project Name	SyntaxSavior
Project's URL	syntaxsavior.com

Project Idea Description

Project Goal: Assist students in the early stages of engineering degrees to help improve their self-learning skills, and problem solving via the lab classes.

SyntaxSavior will be a suite of applications with the goal of providing the means necessary for students to understand and solve the problems they face in their lab classes, by walking them through the development of their problems solving skills, alongside providing a better interface for their tutors to approach their queries with a more teaching focused aspect more so than the current situational answer focused system. As we have observed the struggles of our freshmen in the Introduction to Programming lab classes, it became apparent that a variational approach that accounts for the lack of experience in working with integrated development environments, and the overall sense of unfamiliarity with programming and computer functionality was needed to ensure that said freshmen had a need for an improved platform to practice and experience the theoretical knowledge they have received from their instructors firsthand. Our multifaceted approach to the lab system focuses on being implementable with minimal disturbance and external effort by the hard ,and in some cases, overworking lab assistants and instructors, while still providing the necessary tools and guidance for students to improve their understanding of development and as a reflection, their problem identification and solving skills in general, which will undoubtedly translate into any and every field of engineering, and in turn, increase the quality of education they receive from their institution for their entire stay.

Early planning on the implementation details:
The varying lab questions and the graded of the lab classes will be supported by machine learning algorithms and artificial intelligence that will dynamically analyze student actions and provide guidance in accordance with their issues. The fundamentals of the project will lie in gathering data from multiple lab sections and identifying common trends about different aspects of the process where students fall short and building optimal solutions for them. A suite of services and applications that run-in tandem with each other, ranging from plugins for popular IDE choices, web applications that analyze and display the student's progress and blockers, and an interface with the artificial intelligence running in the background, so that students depend more on their critical thinking skills, as opposed to popular choices like OpenAI's ChatGPT, and its derivates.