Soumil Sudhir Baldota

ACADEMIC DETAILS			
B.Tech CSE	SRM Institute of Science and Technology - Kattankulathur Campus	**9.7 CGPA**	2024
ICSE (CLASS XII)	North Point School	**79 %**	2020
ICSE (CLASS X)	St. Mary's	**89 %**	2018

SUBJECTS	
Electives	Computational Genomics, Machine Learning, Data Science
Technical Proficiency	C++, Python3, ROS, Discrete Mathematics, C Programming

WORK EXPERIENCE		
Google/CERN-HSF Contributor at GSOC '22	GSOC CERN-HSF Currently, two major languages are used in high-energy physics (HEP): C++ for numerically intensive code, where execution speed is critical, and Python for interactivity and simplicity of development (frequently used as 'glue' between high-performance code modules). Julia has recently sparked increased attention as a potential language for HEP. This could provide Python's convenient features while maintaining C++'s ideal computational efficiency. In order to continue this investigation, this project will interface the data model library PODIO with Julia. This will allow you to read existing data files into a Julia program. This project seeks to use the same YAML-syntax to auto-generate Julia code for the end user to be utilized in HEP, as well as to do performance testing to compare the language interfaces for C++ and Julia. General Plan PODIO can already : Read YAML files and validate and parse them to extract necessary information like data members, relations and vector members of components and form MemberVariable objects from that information, forming a object dictionary to be used by the jinja2 template engine (using templates for C++) to generate C++ code. Our Plan: Build a prototype without code generation to test whether the current info passed to the jinja2 template Engine by the ClassGenerator class is sufficient, Accordingly adding the pre-processing logic required to the ClassGenerator class create new templates and dictionaries for jinja2 to generate Julia code. Running tests on the Julia code and refactoring generator code. Benchmarking and Documentation.	Jun 2022 - Present

PROJECTS		
Monocular Pose Vector Calculation of Arrow	https://github.com/soumilbaldota/PoseVectorOfArrowDetection Using mono camera detection of arrows using darknet's Yolov5s trained on web scraped images and calculating pose vector by solving the perspective and points problem using the solvePnP method of openCV.	May 2021 - Jun 2021

AWARDS AND RECOGNITIONS		
IRDC '21 4th Place by Mars Society South Asia		Sep 2021
ICETCI 2021 (Participation) by IEEE	The International Conference on Emerging Techniques in Computational Intelligence	Aug 2021
Ideathon '21 Winner by AEC Coding Club		Jun 2021

VOLUNTEER EXPERIENCE		
SRM Hospital Role: Blood Donor Cause: Health		Aug 2022 - Present

LANGUAGES
Hindi, English

PATENTS

Zoomferous **Filing date: Sep 8, 2022** | **Issue date: Yet to be issued**

Title of the invention: Zoomferous - digital teaching tool for online educators

Earlier status of research

Earlier status of research: Explaining concepts in online classes is hard. With only powerpoint presentations and PDFs it is not easy to teach some subjects. Maths and Physics concepts require drawing, illustrating, detailed walkthrough of solutions and live problem solving. Without the blackboards, it is hard for teachers to solve questions like they would in a physical classroom. For solving this problem we propose a software which emulates blackboard writing. With no extra hardware this software uses the webcam of the device to read the content of paper/board/workspace and applies filters before presenting the masked content.

Novelty:

Graphics Tablets are a good alternative to black board but they aren't cheap and require significant investment. Currently teachers without a graphics tablet use either the mouse to draw in MS Paint or hold a mobile camera in hand and point at their notebook. Both these methods are clumsy and result in shaky and illegible writing.

Thank you sir

Application number: **IDF241** | Patent Office: **India**

BASIC INFORMATION

Mobile Number: 7715886376	Address: 1101-H, The Springs, Sector 20, Roadpali, Raigarh(MH), Raigarh(MH), Maharashtra - 410218	Email: sb4172@srmist.edu.in