Arsh Sharma

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EDUCATION

NIT HAMIRPUR
B.Tech + M.Tech
Electronics and Communication
Expected May 2023 | Hamirpur, IND
Cum. GPA:8.09

MOUNT CARMEL SCHOOL
Grad. Mar 2018| Himachal Pradesh, IND
Cum. GPA:10

LINKS

Github:**Sov-trotter**
LinkedIn:**sov-trotter**

SKILLS

PROGRAMMING
Julia • Python • C++ • Matlab • Java

TOOLS
Atom • LaTeX• Vim • VisualStudio Code

LIBRARIES
MatPlotLib • DataFrames(Pandas) Three.js, • JSON(RPC) • Tensorflow p5.js • Makie • QuantumBFS • Plots

MISCELLANEOUS
Arduino • Quantum Information Theory Processing • Blender • Genetic Algorithms • Microsoft Kinect SDK Generative Art • Webscraping

EXTRACURRICULARS

• Aug'20-Nov'20 & Joint Secretay Hult Prize NITH
• Aug'18-present & Coordinator Team ISTE
• 2018 - 2019 & Animator at Pixonoids

WORK EXPERIENCE

STUDENT DEVELOPER - JSOC'20 May'20 - Sept'20
Julia Season of Contributions

- A GeoSpatial data handling ecosystem for the Julia language
- The project simplifies the GIS pipelines to read and view data in Julia, right from parsing it to a Tabular format and be able to plot it, all withing 4 lines of Julia code!

TECHNICAL WRITER - GEEKSFORGEEKS April'20

- Writing articles on The Julia Language

PROJECTS/OPEN-SOURCE CONTRIBUTIONS

IBMQJulia.jl Oct'20

- A package written in Julia that uploads quantum circuits generated by Yao.jl to IBM-Quantum, that runs quantum circuits on real quantum computers.
- This package implements the OpenQasm specifications paper.
- For now it can login, select backends, upload the circuits and get the results from the IBMQ server made possible by two major units the REST API and the Yao IR to QObj parser.

Randomorg_API.jl Nov'19

- Wrote a client library that fetches true random numbers from Random.org (It can be now found on Random.org's official website.)
- RANDOM.ORG offers true random numbers to anyone on the Internet. The randomness comes from atmospheric noise, which for many purposes is better than the pseudo-random number algorithms.

GPU EMULATOR Oct'19

- A video card made from scratch using IC's

2D RAYCASTER/RAYTRACING ENGINE Sept'19

- Built a minimal 2-D raytracer in js

MOTION CAPTURE USING KINECT April'19

- The first few steps involved interfacing with the Kinect
- The output from kinect was then stored in a .bvh file (OpenNI)
- The .bvh was imported into Blender and appiled on a model's armature thus the model imitated human movment
- In additon to it many objects were 3D scanned and their 3D models created (wavefront .obj format)

3D HUMAN - COMPUTER INTERFACE Dec'18

- Placing an object within the electric field of a capacitor affects the capacitance and the corresponding time constant.
- This gave the location of an object in a 3D space. While the Arduino micro-controller fetched values from the 3D space(capacitor), Processing was used to create a visual representation