Avinash Aldhapati

+91 9945099889 | aldhapatiavinash@gmail.com | linkedin.com/in/avinash-aldhapati/ | github.com/deep0ctave

Education

PES UNIVERSITY — Bangalore, India
B.Tech ECE, 7.93 CGPA — *2019 – 2023*

CHETHANA PU COLLEGE — Bangalore, India
State Board, 78% — *2017 – 2019*

RYAN INTERNATIONAL SCHOOL — Bangalore, India
10th-ICSE, 89% — *2006 – 2017*

Experience

Undergraduate Research Assistant — Feb 2022 – Dec 2022
CHIPS - Centre for Heterogeneous and Intelligent Processing Systems — *Bangalore, India*

- Modified Thermal algorithm by Sankhya Sutra Labs written in dpc++ to be run on FPGA.
- Implemented three dimensional Lattice Boltzmann Method on Intel oneAPI.
- Demonstrated the reduction in error and it's propagation on using custom datatypes.

Research Engineer — Jan 2023 – July 2023
Calligo Technologies — *Bangalore, India*

- Demonstrated the increase in precision in algorithms that use 'Posits'.
- Developed and analysed physics based algorithms to understand the impact of Posits on simulations.
- Co-authored a paper titled - 'Unleashing Simple Pendulum Dynamics with Posit Arithmetic' and presented it to Prof. John Gustafson in CoNGA24 link .

Personal Projects

Image Steganography | *MATLAB*

- Implemented a simple steganographic algorithm on MATLAB.
- Demonstrated how insignificant bits can hold important information in plain sight.
- Showed the effect of trying to embed more information on a limited bit depth.
- Hid 'IF' poem by Robert Frost in a high-quality BMP image of the GOT map.

Cinechroma | *Python, ffmpeg, ImageMagick*

- Developed Cinechroma, a Python tool, for automatic extraction of prominent colors from video frames.
- Leveraged OpenCV and FFmpeg to streamline the processing pipeline, enabling efficient color analysis.
- Provided valuable insights into color trends and usage patterns in video content, facilitating applications in movie analysis and content creation.

Bluetooth Controlled Door Lock | *Arduino, Micro Servo Motor*

- Collaborated with peers from the Mechanical Department to implement a Bluetooth controlled door lock.
- Implemented a system where a password is typed on a mobile app to lock/unlock door.
- Used Bluetooth instead of IoT to keep it simple and secure.

Skills

Programming Languages: Python, HTML, CSS, JavaScript, C++
Tools and Platforms: Windows, Linux, Git, Matlab, Excel, React, Express, Node, Vite, Threejs

Hobbies

Clay Modelling, Painting, Watching Movies, Chess, Swimming

Languages

English, Telugu, Kannada, Hindi, Tamil