

# SANDEEP KUMAR SWAIN

B.Tech 4th Year | Student | Developer

Results-driven Computer Science and Engineering student seeking opportunities to leverage self-taught full-stack development skills and a passion for creating things that live on the internet, be it websites, applications, or anything in between.



## CONTACT

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## SKILLS

### Programming

- > C for low-level programming
- > C++ for Competitive Coding
- > Java for AppDev
- > HTML-CSS-JS for Web Dev

### Web Development Tools

- > JS Frameworks like Next.js(React) and Vue.js
- > CSS Frameworks like Tailwind CSS and Bootstrap
- > Backend Technologies like Node and Express
- > Databases like Firestore, MongoDB, HyGraph CMS, SQLite
- > Netlify, Vercel, Digital Ocean for hosting

### Data Science and ML

- > Machine Learning platforms like Tensorflow, Keras, Sci-kit Library
- > Data Analysing libraries like Numpy, Pandas, Matplotlib Library

### Development Tools

- > Version Control Tools like Git and Github
- > Code Editors like VS Code, NeoVim
- > Cloud Providers like GCP
- > Linux OS like Ubuntu, Kali

### Other Skills

- > Ethical Hacking Tools like Metasploit, Burpsuit, NMap, WireShark
- > Can speak English, Hindi, Odia
- > App Dev Lead in KIIT KONNEXIONS

## FOOTNOTE

Actively seeking new opportunities to expand knowledge base and gain valuable work experience. Committed to delivering full commitment and dedication to assigned tasks within your organization.

## PROJECT WORKS

### GAN Optimization using Duality Gap

- > Implemented the concept of Duality Gap on various other optimisation algorithms of GANs to enhance performance.
- > Achieved a faster rate of convergence for GAN components by trying to minimize a common objective function.
- > Successfully eliminated oscillation and mitigated other anomalies during the training process.

GANs Optimisations Duality Gap

### Nearest Neighbor Transformation of Quantum Circuits in 2D Architecture

- > Developed an algorithm to minimize the insertion of swap gates in quantum computing.
- > Strategically placed the qubits on a grid to reduce the overall number of required swaps.
- > Employed a Genetic Algorithm to identify the optimal path to minimise the total swaps.

Quantum Circuit Swap Gates Nearest Neighbor Genetic Algorithm

### Various Deep Neural Networks on Computer Vision

- > Successfully implemented an image captioning model leveraging the power of a CNN and a Transformer.
- > Applied Convolution LSTM to develop a Next-Frame Prediction Model.
- > Effectively implemented the concept of Style Transfer and auto-encoders.
- > Contributed to projects focused on Super-Resolution and Low-Light Image Enhancement.

Quantum Circuit Swap Gates Nearest Neighbor Genetic Algorithm

### Various Web Projects

- > An E-Commerce Website built using Next.js, Tailwind CSS, Mongo DB with integrated secure payment using Stripe API
- > A Social Media Website built using Next.js, Tailwind CSS, Mongo DB with a custom server using Express environment to implement Socket.io.
- > An Algorithm Visualiser built using Next.js and Tailwind CSS with state management using Redux.
- > An Online Classroom Management website for Talent Sprint Classes, Berhampur
- > Have made freelance websites for KIIT KONNEXIONS and InU Cafe.

Quantum Circuit Swap Gates Nearest Neighbor Genetic Algorithm

## EDUCATION

- 2018  
De Paul School, Berhampur
- 2020  
FIITJEE Junior College, Vijayawada
- 2020-Present  
Kaling Institute of Industrial Technology

Class 10th Percentage - 92.4%

Class 12th Percentage - 95.5%

CGPA as in 6th Semester - 9.2