# 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

*Scripting/Coding*

- Low-level programming using C
- Competitive Coding using C++
- AppDev using Java or Flutter
- WebDev using HTML-CSS-JS
- ML and Data Science using Python

*Web Development Tools*

- Have used JS Frameworks like Next.js(React) and Vue.js
- Skilled in CSS Frameworks like Tailwind CSS and Bootstrap
- Fluent in Backend Technologies like Node and Express
- Implemented Databases like Firestore, MongoDB, HyGraph CMS
- Hosted websites mostly in Netlify, Vercel, Digital Ocean

*Data Science and ML*

- Have used ML libraries like Tensorflow/Keras, Sci-kit Library
- Matplotlib, Numpy, Pandas are the go-to libraries for Data Analysis

*Development Tools*

- Comfortable with Version Control Tools like Git and Github
- Skilled in code editors like VS Code
- GCP is the go-to cloud provider
- Have used Linux OS like Ubuntu, Kali

*Other Skills*

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

## CERTIFICATIONS

- FreeCodeCamp Certifications
- HackerRank Certifications
- NPTEL Ethical Hacking Certification

## 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 | Autograd | Matplotlib | PyTorch

### 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.

Deep Learning | Computer Vision | CNN | LSTM | Tensorflow

### 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 using Vue.js, Bootstrap and Firebase for hosting, auth and database
- Have made freelance websites for KIIT KONNEXIONS and InU Cafe.

Full-Stack Development | REST APIs | System Design | Web Apps

## EDUCATION

2018
De Paul School, Berhampur
Class 10th Percentage - 92.4%

2020
FIITJEE Junior College, Vijayawada
Class 12th Percentage - 95.5%

2020-Present
Kaling Institute of Industrial Technology
CGPA as in 6th Semester - 9.2