Rahul Shukla

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in LinkedIn | ⊙ Github | ⊕ Portfolio

EDUCATION

- **International Institute of Information Technology, Naya Raipur** — Raipur, India
  Bachelor of Technology - Electronics and Communication Engineering; Percentage : 77.23   Dec 2020 - May 2024
  Courses: *Computer Vision, Data Structures, Machine Learning , Artificial Intelligence, Deep Learning, VLSI, Wireless Communications*

EXPERIENCE

- **IIITM - Gwalior**
  Summer Research Intern   May 2022 - June 2022
  - **Overview::** Built a **NLP** model that could summarise an news article and successfully interpret the meaning.
  - **Dataset Extraction::** **InShorts** news Dataset was used to train the model.
  - **Model Used::** Implemented a transformer model **T5** which is a unified **text to text transformer.**
- **NIT - Surat**
  Research Intern   July 2022 - Feb 2023
  - **Overview - Single Shot Face Recogniton Siamese Model**: Developed a Face Recognition model for a face recognition system based on Siamese Neural Network.
  - **Methodology -** : Used **Triplet Loss** with anchors along Siamese Model for single shot recognition and achieved a accuracy of 96.30

RESEARCH PROJECTS

- **NxtHire - A Seamless & Scalable Job Portal**   ↗**Live**   ⊙**Code** :
  - **Crux**: Engineered a sophisticated job portal optimizing hiring workflows, integrating real-time notifications, seamless job applications, and enterprise-grade authentication to elevate user engagement and operational agility.
  - **Method**: Architected a full-stack ecosystem leveraging React for a dynamic UI, Node.js/Express for scalable backend logic, and MongoDB for high-performance data persistence, fortified with RESTful APIs, secure authentication via Clerk, and media handling via Cloudinary
  - **Tech Stack**: React, Tailwind CSS, Axios, Clerk, React Toastify, Node.js, Express, MongoDB, Cloudinary

- **Chattify - A Real-time Chat Application**   ↗**Live**   ⊙**Code** :
  - **Crux**: Developed a cutting-edge real-time messaging application that ensures instantaneous and frictionless communication, utilizing advanced web technologies for a highly responsive and immersive user experience.
  - **Method**: Engineered a scalable full-stack solution powered by the MERN stack, integrating Socket.io for low-latency, bidirectional messaging, JWT for fortified authentication, and Cloudinary for seamless media storage and retrieval.
  - **Tech Stack**: React, Redux, Tailwind CSS, DaisyUI, Zustand, Node.js, Express, MongoDB, Mongoose, Socket.io, JWT, Cloudinary

- **Deep Learning-Based Weed Detection System for Precision Agriculture**   ⊙**Code** :
  - **Crux**: Developed a specialized weed detection system for Chhattisgarh's onion fields, utilizing a dataset of 800 images from IGKV, Raipur, and implementing a novel approach with a modified U-Net model.
  - **Method**: Achieved a remarkable 94% overall segmentation accuracy with the developed weed detection system, enabling effective weed removal in agricultural fields when integrated with hardware by accurately identifying and locating weeds.
  - **Tech Stack**: Python, Tensorflow, Kaggle GPU Accelerator, Scikit-Learn

PUBLICATIONS

- **IEEE I2CT 2024**   ↗
  R. Shukla, B. Ajwani, S. Sharma, D. Das   *Published*
  - **Overview -** : Leveraged machine vision with unsupervised K-means clustering and thresholding on the nucleus for enhanced diagnostic accuracy, overcoming traditional biopsy limitations.
  - **Methodology -** : Implemented a two-stage process involving image segmentation and CNN classification, achieving an impressive accuracy of 97.28%.

SKILLS SUMMARY

- **Languages**: Python, C, C++, Java, JavaScript, TypeScript, R, SQL, SAS
- **Frameworks**: Scikit-Learn, TensorFlow, Keras, PyTorch, React, Next.js, Redux, Zustand, Tailwind CSS, Express.js, Node.js, Socket.io, Axios, MongoDB, PostgreSQL, Hadoop, Impala, Hive, PySpark
- **DevOpsTools**: GCP, AWS, Azure, Jenkins, Bitbucket, Docker, GIT, AWS Sagemaker, REST APIs, JWT Authentication, Clerk, Postman, Tableau, Power BI, Excel, Word, PowerPoint

HONORS AND AWARDS

- **Kaggle** : Kaggle Notebooks Expert
- Secured **Rank 2** in **5th Industry-Academia Meet** (IAM) of IIIT Naya Raipur for the AI-based weed detection prototype, April 2023.
- **Solved** over **300+** problems on Leetcode and GFG