Sachin Chakradhar

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Education

Kathmandu University: Bachelor of Engineering in Computer Science and Engineering — 2025

- GPA: 3.85 / 4.0
- **Coursework:** Data Structures & Algorithms, Data Mining, Machine Learning, Database Systems, Software Engineering

Capital College and Research Centre (CCRC) : High School — 2018 - 2020

- CGPA: 3.64 / 4.0
- **Coursework:** Web Design, Bootstrap, HTML/CSS

Skills

Programming Languages: Python, C/C++, JavaScript

Libraries: Python Libraries, React.js, Next.js, Remotion, ChartJS, D3JS

Machine Learning: Matplotlib, NumPy, Pandas, Plotly, scikit-learn, PyTorch

Databases: Relational Database(mySql), MongoDB

Tools: Git, GitHub, VS Code, MS Excel, Looker Studio, Apache Airflow, Figma

Core Competencies: Data Analysis, Visualisation, Machine Learning, Research

Academic Projects

Img To Img Translation with GAN | 2024 — Link

- Engineered **Generative Adversarial Networks (GANs)** for **3,000+** satellite-to-map datasets
- Trained the model for **500 epochs**, achieving significant reduction in generator loss
- Maintained equilibrium with the discriminator loss converging between **0.4 and 0.6**
- **Role: Deep learning Model researched**, model architecture designerd and competitively analyzed.
- **Technologies:** Python, PyTorch, Google Colab

Object Detection System (vEsion) - Computer Vision Project | 2023 — Link

- Designed and created an object detection system using **Convolutional Neural Networks (CNNs)**
- Implemented multi-class classification on **80+ object categories** from the COCO dataset
- Achieved **92.5%** accuracy, 0.88 precision, 0.86 recall, and **0.87 F1-score** through model evaluation
- **Role: CNN model architecture researched**, model trained and Implemented using tensorflow.
- **Technologies:** Python, TensorFlow, Google Colab

GitHub Users Dashboard - Data Chautari | 2024 — Link

- Built an interactive web application for visualizing and **analyzing 10,000+ GitHub users**
- Engineered **10+ custom interactive charts** enhancing data insights and engagement by 60%
- Created a reusable component library boosting performance by 50%
- Analyzed the insights of **Top 5 programming languages** and their adoption rate trends
- Implemented comprehensive data preprocessing and **exploratory data analysis (EDA)**
- **Role:** Data fetched, preprocessing and frontend developer responsible for visualization implementation.
- **Technologies:** Python, React.js, TailwindCSS, ChartJS, D3JS

WebHub - No-Code Website Builder Platform | 2023 Link

- Developed a drag-and-drop website builder application that reduced website creation time by **78%** for small businesses
- Built 12+ reusable React components, improving development efficiency by 40%
- Implemented real-time preview using Next.js server components, enhancing workflow by **53%**
- Designed an intuitive interface following modern UI/UX principles from Figma mockups
- **Role:** Led group of four, responsible for project component architecture setup and version control
- **Technologies:** Next.js, React.js, CSS, Figma, Server-Side Rendering (SSR)

WellBeing - Fitness App | 2022 Link

- Integrated **step tracker functionality** with Android sensors, increasing daily user engagement
- Implemented water reminder system with customizable notifications, boosting **hydration goal completion**
- Created exercise notes feature for workout planning and progress tracking, enhancing user retention
- Designed and implemented responsive splash screen with brand logo, reducing perceived loading time by **30%**
- Streamlined dependency injection using Hilt/Dagger, improving app performance and stability
- **Role:** Developed Frontend responsible for **Jetpack Compose UI** integration, exercise notes implementation, dependency injection, and step tracker components
- **Technologies:** Kotlin, Jetpack Compose, Android SDK, Room Database, Dagger/Hilt, Android Sensors API

Bagchaal - Traditional Board Game | 2021 Link

- Developed a digital version of the traditional Nepali board game "Bagchaal" using C and **SDL library**
- Implemented precise mouse input coordinate tracking system, enhancing game piece movement
- Created intuitive game logic for tiger and goat movements according to traditional rules, improving gameplay authenticity
- Designed responsive game board visualization that adapted to different screen resolutions,
- **Role:** SDL integration, input handling, and game logic implementation
- **Technologies:** C Programming, SDL Library, 2D Graphics Rendering, Game Logic, Input Handling

Mini Projects

Weather Data ETL Pipeline with Apache Airflow | 2025 Link

- Architected data pipeline using Apache Airflow to extract, transform, and analyze real-time weather
- Implemented data extraction from Weather API, processing comprehensive meteorological data
- Developed automated data transformation workflows for creating predictive analytics models
- **Technologies**: Apache Airflow, Python, Pandas, SQLAlchemy

UFO Sightings Dataset Analysis | 2024 Link

- Developed a Looker Studio dashboard to explore and visualize 10,000+ UFO sighting records
- Identified that 37% of sightings occurred in the United States and mapped geographical distribution trends
- Analyzed sightings from 1990–2010, covering 62% of total recorded events
- **Tools:** MS Excel, Google Looker Studio

B(AI)RoadkoBato: Trip Guide | 2025 Link

- Developed a comprehensive travel guide using React.js to explore and plan trips for 20+ destinations across Nepal
- Integrated Gemini API for real-time hotel recommendations, covering 100+ hotels with pricing details
- Implemented Google Auth, enhancing security and boosting user retention by 30
- Optimized UI with shadCn, reducing page load time by 40
- **Technologies:** React.js, Vite, Gemini API, Google Auth, shadCn

CLR(1) Parser Compiler Web Interface | 2024 Link

- Integrated interactive grammar and parsing visualizations, enhancing learning efficiency by 60%
- Implemented real-time parsing visualizations improving syntax clarity by 70%
- Ensured responsive compatibility with progressive enhancement, increasing accessibility by 40%
- **Technologies:** React.js, TailwindCSS, Flask API

BichaarSangraha - Full-Stack CRUD Application | 2025 Link

- Created an offline-first blogging platform maintaining 98.5% functionality without internet connection
- Optimized compression and efficient JSON serialization, reducing API payload sizes by 45%
- Built RESTful API in Flask reducing frontend-backend communication latency by 40%
- Structured SQLAlchemy database schema, improving query response times by 35%
- **Technologies:** Vite, React.js, Flask, Python, SQLAlchemy, Client-Side Rendering (CSR)

FeedU : KNN Based Food Recommendation System | 2025 Link

- Developed a website which recommends food based on craving
- Preprocessed, cleaned and implemented K- Nearest Neighbour Algorithm to predict Food based on user cravings, budget and location inputs.
- **Technology Used:** React Js, Flask, Python, Notebook

Achievements

1st Place - KU Hackfest | 2023 Link

- Top winner among 22 competing teams
- Created an innovative tourism tech solution with Three.js for immersive 3D frontend experiences and Remotion for video generation using ReactJS for web application development

Champion - KU Ideathon | 2025 Link

- Winner among 16 innovative idea pitchers
- Developed "Mental Compass" health prediction app that detects potential panic attacks and early signs of depression through real-time biometric data from wearable devices