

# DIKSHYANTA UPRETY

Computer Scientist

Personal website | [LinkedIn](#) | [GitHub](#)

Kathmandu, Nepal | (+977) 9861470412 | [dikshyantauprety@outlook.com](mailto:dikshyantauprety@outlook.com)

## PROFILE

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Software Engineer with experience in front-end and back-end development, specializing in building scalable applications and collaborating with cross-functional teams. Passionate about deep learning, with a focus on developing innovative solutions using Generative Adversarial Neural Network (GAN).

## EDUCATION

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### BSc Hons Software Engineering for Business 2020 - 2023

*Frenchay Campus, University of the West of England, Bristol*

- Graduated with a first-class honors degree, with one of the highest scores in my cohort. Performed outstandingly in modules like information systems development, object-oriented systems development and data structures and algorithms.

### Cambridge International Examination A Levels 2017 - 2019

*Budhanilkantha School, Narayansthan, Kathmandu*

- Completed the A-levels examination with the electives Mathematics (A\*), Physics (A) and Chemistry (B). As an academic prefect, provided learning support to the juniors of my cohort.

## WORK EXPERIENCE

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### Front-end developer October 2023 – April 2024

*Omnicom media group, Nepal*

- Developed user-centric web and mobile applications using React and React Native in an Agile Scrum team. Enhanced UI/UX, improving cross-platform performance, adding new functionalities and increasing overall user engagement.

### Back-end intern May 2024 - November 2024

*Yoddha Lab, Nepal*

- Developed scalable server-side applications using Node.js. Integrated PostgreSQL and MongoDB, optimizing API performance and reducing load time. Led the development of an automated attendance management platform for the human resource team of the company.

### Peer Assisted Learning mentor September 2021 - May 2022

*University of the West of England, United Kingdom*

- Served as a Peer Assisted Learning Mentor, supporting junior students in their academics through weekly Microsoft Teams and in-person sessions. Addressed queries, guided them to appropriate resources, and clarified challenging topics to enhance their understanding.

## PROJECTS

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### Fashionista

- Fashionista, a GAN built with TensorFlow and Python, uses the Fashion MNIST dataset to generate clothing images. Through adversarial training, the generator creates synthetic images while the discriminator distinguishes real from fake, showcasing GANs' capability to produce innovative data.

### **Dinochamp**

- Dinochamp is an AI-powered application that autonomously plays the Chrome Dino game. It uses mss for frame capture, OpenCV, and Py tesseract for text recognition, with reinforcement learning via Stable-Baselines3 and a model optimized over 75,000 instances to showcase efficient gameplay.

### **Comfy store**

- Comfy store is a full-stack MERN ecommerce application with secure authentication, Redux for state management, and React Query for advanced caching. It offers a modern shopping experience using Tailwind CSS and DaisyUI for sleek design.

## **SKILLS**

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### **Languages and Frameworks**

- JavaScript, Python, React, React Native, Express.js, MongoDB, PostgreSQL, Git

### **Artificial Intelligence/Machine Learning tools**

- Scikit-learn, Hugging face transformers, OpenCV, Pandas, Matplotlib, Seaborn

## **COURSES AND CERTIFICATES**

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### **Generative AI with Large Language Models**

- Completed a course on generative AI using LLMs, covering transformer architectures, fine-tuning strategies like LoRA and RLHF, and model optimization. Gained skills in prompt engineering, multi-task fine-tuning, and integrating LLMs into applications with responsibility and scalability.

### **Convolutional Neural Networks**

- This course provided a solid foundation in CNNs, covering concepts like edge detection, pooling, and architectures such as ResNets and MobileNet. It also explored advanced topics like YOLO object detection, U-Net segmentation, and applications such as facial recognition and neural style transfer.

### **How to write and publish a scientific paper**

- Learned the essential steps of writing and publishing academic papers, including the literature review, research design, and structure. Gained expertise in ethical guidelines, Zotero for reference management, and key aspects of the peer-review process. Developed skills to effectively communicate research findings while avoiding writing and formatting mistakes.

## **PROFICIENCY TEST SCORES**

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### **GRE - 317**

- Quantitative: 163, Verbal: 154, Analytical writing: 4.5

### **IELTS – 8.5**

- Listening: 9.0, Reading: 9.0, Writing: 7.5, Speaking: 7.5