MANISH CHHETRI

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PROFILE

Results-driven and passionate professional with strong research interest in AI and Cloud Computing. Extensive experience in software development, cloud services, and mentoring junior developers. Skilled in Docker, Kubernetes, and microservices, with a focus on secure, scalable solutions.

Interests: Artificial Intelligence, Cloud Computing, Machine Learning, NLP, Computer Vision, IoT.

EDUCATION

Western Region Campus, Institute of Engineering, TU, Nepal   *2019 – 2024*
B.E. in Electronics, Communication and Information Engineering
Final Grade: First Division   *Percentage: 72.55%*
Thesis Title:
Image Captioning in Nepali Language

Global Collegiate School, Nepal
Science, National Examination Board (NEB)   *2017–2019*
Final Grade: First Division   *CGPA: 3.45/4.0*

SKILLS AND COMPETENCIES

Languages:	Python, Java, C/C++, JavaScript (Node.js), Arduino
Machine Learning:	Transformers, LLMs, CNNs, RNNs
Web Development:	Node.js, TypeScript, Express, NestJS, React.js, Next.js
Database:	PostgreSQL, MySQL, MongoDB
DevOps & Cloud:	Docker, Kubernetes, CI/CD (GitHub Actions), AWS (EC2, S3, Lambda, VPC)
Hardware:	Arduino, SIMmodule, GPS, Bluetooth, VHDL (Embedded Programming)
Strengths:	Communication, Team Leadership, Time Management, Project Coordination

PUBLICATIONS

Nepali Image Captioning: Generating Coherent Paragraph-Length Descriptions Using Transformer   *Journal of Soft Computing Paradigm, 6(1), 70-84*
CO-AUTHOR   *2024*
- Subedi, N., Paudel, N., Chhetri, M., Acharya, S., & Lamichhane, N
- DOI: 10.36548/jscp.2024.1.006

Drowsiness and Crash Detection Mobile Application for Vehicle's Safety   *Journal of IoT in Social, Mobile, Analytics, and Cloud, 6(1), 54-66*
CO-AUTHOR   *2024*
- Subedi, N., Paudel, N., Chhetri, M., Acharya, S., & Lamichhane, N.

RESEARCH EXPERIENCE

Nepali Image Captioning   *2024*

- Created Nepali Paragraph Captioning Dataset using Beautiful Soup for web scraping and manual annotation.
- Developed a web app using Node.js and React, deployed models to Hugging Face for inferencing.
- Built image captioning models using ResNet50, ResNet152, InceptionV3 for feature extraction and LSTM/Transformer for Nepali caption generation.
- Authored a comprehensive scientific paper and presented at an international conference, receiving recognition for its impact.
- Using LSTM
- Using Transformer

Crash and Drowsiness Detection System   *2023*

- Integrated Arduino, GPS, GSM, Accelerometer, and Bluetooth module to detect collisions and notify rescue centers.
- Implemented false notification prevention using a mobile app connected to the crash system.
- Implemented facial detection system to monitor driver drowsiness.
- Authored and submitted a manuscript, serving as corresponding author.
- CODE

CONFERENCE/WORKSHOP ATTENDED

Recent Trends on Science, Technology and Innovation 2024 (RTSTI)   *Institute of Forestry, Pokhara Campus*
PRESENTER   *2024*

- Presented a comprehensive research on Vehicle's Crash Detection and Alert System.
- Received positive feedback for innovative work on combining hardware with AI.

INDUSTRIAL EXPERIENCE

Swivt Technology   *Lalitpur, Kathmandu Nepal*
Full Stack Software Engineer   *Nov. 2023 – Aug. 2025*

- Managing server configurations, troubleshooting, and resolving issues by analyzing log files to ensure seamless operations.
- Handling international client projects, ensuring high-quality deliverables and receiving consistently positive feedback.
- Enhancing existing projects by implementing new features, with a focus on Payment System , Admin Pannel, CMS, CRM, WebRTC and role-based management systems.
- Application containerization, Nginx optimization, Cloudflare DNS/domain management, and end-to-end cloud-native deployment of RAG transformer models for medical insurance systems.

Swivt Education   *Lalitpur, Kathmandu Nepal*
Full Stack Developer (Mentor)   *Nov. 2023 – Aug. 2025*

- Provide guidance and mentorship to junior developers, helping them enhance their technical skills and grow as full- stack engineers.
- Assist mentees in building real-world applications, focusing on both frontend and backend development using modern technologies (e.g., React, Node.js, MongoDB)
- Review code, provide constructive feedback, and introduce best practices in software development. - Teach concepts like version control, API development, responsive design, and database management.

EnterLeaf   *Kuleshwor, Kathmandu Nepal*
Microservice Backend Developer   *Jul. 2023 - Nov. 2023*

- Designed and developed different services using NestJS, leveraging NATS for message brokering, enabling a robust event-driven architecture.
- Integrated an API Gateway to handle and route requests efficiently from both mobile and web browser clients, ensur- ing seamless communication across services
- Implemented a CI/CD pipeline using GitHub Actions, streamlining the deployment process and ensuring continuous integration and delivery for rapid and reliable updates.

UpStartPrep   *Knoxville, Tennessee, United States*
Backend Developer   *Dec. 2022 -Jun. 2023*

- Creating and improving application programming interfaces (APIs), architecture, and servers, and databases (SQL) for E-Learning Platforms.
- Implementation of Payment System (Stripe) and Used Cloud Services like AWS.
- Implementation of microservices-based architecture, incorporating containerization and CI/CD pipeline for efficient development.

AWARDS AND HONOURS

Robo Soccer Competition   *National Innovation Center Nepal, Pokhara*
First Position   *Jan. 2019*

- Designed and developed an autonomous robot in a team of four that could play soccer, kick the ball, and defend the goal.

Battle for Speed   *VECTOR – Second National Technical Festival, WRC*
Second Position   *Jan. 2019*

- Developed an automatic line-following robot using Arduino programming, focusing on speed and precision.

Datathon Competition   *I-CES, IOE Western Region Campus*
First Position   *Jan. 2019*

- Collaborated in a team of two to preprocess provided datasets and train a machine learning model achieving 91% accuracy, followed by a successful presentation of results.