

Sasishekhar Thapa

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EDUCATION

Bachelor of Civil Engineering

Aug 2018 – Apr 2023

Tribhuvan University

- Graduated with **First Division** (76.67%).

TECHNICAL SKILLS

- **FEM:** Abaqus, SAP2000
- **Programming:** Python (data analysis, basic AI/ML libraries, C++)
- **Design Software:** Civil 3D, SW Road
- **Project Scheduling:** Microsoft Project
- **Teaching/Collaboration:** Google Classroom, MS Teams, Zoom

SELECTED PROJECTS

Road Safety Audit and Pavement Condition Assessment

Jun 2022 – Mar 2023

Conducted under supervision of Dr. Pradeep Kumar Shrestha

- Identified factors influencing road accidents through inspection of road surfaces and roadside problems (potholes, drainage issues, missing signs/markings).
- Analyzed correlations between pavement condition and accident data to highlight safety-critical issues.

Finite Element Analysis of Rigid Pavement under Combined Loading

Jan 2025 – Apr 2025

Conducted as Individual Work

- Built a 3D finite element model in Abaqus to simulate pavement and reinforcing steel interaction.
- Performed coupled thermal–mechanical analysis to study stress distribution (validated 84 psi).
- Incorporated creep effects to evaluate long-term pavement performance under realistic loading.

Asphalt Mix Performance Evaluation for Sustainable Pavement Design

Jun 2024 – Aug 2024

Conducted under supervision of Dr. Pradeep Kumar Shrestha

- Performed laboratory tests on aggregates (abrasion, crushing value) and bitumen (penetration, viscosity, ductility, softening point).
- Conducted Marshall stability and flow tests to evaluate pavement strength and performance.
- Checked skid resistance and particle size distribution to assess durability of asphalt mixes.
- Collected traffic volume data in Gwarkhu, Nepal as part-time work with Soten Nepal Research to support mix design.

TEACHING EXPERIENCE

Laboratory Instructor (Undergraduate Level)

Feb 2024 – Present

Kathford Int'l College of Engineering & Management

- Supervise undergraduate laboratory sessions in **Soil Mechanics, Transportation Engineering, and Concrete Technology**.
- Guide students in equipment calibration, data analysis, technical report writing, and troubleshooting.
- **Soil Mechanics Lab [CE 552]:** Grain size analysis, Atterberg limits, Proctor compaction, permeability, triaxial and shear strength tests.
- **Transportation Lab [CE 653]:** Aggregate/bitumen characterization, skid resistance, Marshall stability test, asphalt mix design.
- **Concrete Lab [CE 603]:** Mix design (DOE, ACI, IS methods), cube/cylinder/prism testing, and non-destructive evaluation.

Teaching Assistant (Undergraduate Level)

May 2024 – Present

Kathford Int'l College of Engineering & Management

- Assist faculty in undergraduate coursework by conducting tutorials, clarifying concepts, and supporting applied problem-solving.
- **Engineering Hydrology [CE 606]:** Rainfall–runoff modeling, unit hydrograph analysis, and surface water estimation techniques.
- **Sanitary Engineering [CE 656]:** Wastewater treatment processes and sludge management with emphasis

on sustainability and resource recovery.

Lecturer (Diploma Level)

Sep 2023 – Jan 2024

Nara Bahadur Karmacharya Memorial Polytechnic

- Taught **Surveying** (theory and fieldwork: leveling, traversing, theodolite) and delivered training on rural road design.
- Supervised practical sessions in **Engineering Materials** and **Soil Mechanics**.

Tutor (Undergraduate Level)

Dec 2024

Engineering Guru (Online Platform) Course Link

- Designed and delivered an online course via Google Meet, attended by around 30 students.
- Covered the full syllabus through interactive lectures, practical assignments, and discussions (approx. 70 teaching hours).
- Improved student outcomes, reflected in higher examination results.

INTERNSHIP EXPERIENCE

Civil Site Engineer (Intern)

Jun 2023 – Aug 2023

Bajra Guru Nirman Sewa Pvt. Ltd., Kathmandu

- Supervised roadway pavements, drainage, gabion/breast walls, and roadside safety measures.

PUBLICATION

Thapa, A., Thapa, K., & Gwachha, J. (2025). Numerical Modeling, Analysis and Structural Design of G+4 RC Building with Re-entrant Corners. *Asian Journal of Engineering and Technology*, 12(1).

DOI: 10.24203/wpvg1q26

(Contribution: Performed finite element modeling and structural analysis using ETABS and numerical simulation techniques, demonstrating proficiency in advanced computational tools for structural systems.)

AWARDS AND HONORS

- Full Merit-Based Scholarship, B.E. Civil Engineering (2018–2023)
- Second Highest Cumulative Score, KICEM (2018–2023)
- Second Runner-up, National Short Video Competition – Himalayan Hydro Expo (2024)
- Runner-up, Paper Bridge Competition – CESSKATH (2019)

LEADERSHIP AND SERVICE

- Volunteer – 3rd International Conference on Transportation (SOTEN, 2025)
- Coordinator – Paper Bridge Competition (CESSKATH, 2023)
- Organizer – National Civil Engineering Exhibition (CESSKATH, 2022)

REFERENCES

Dr. Dinesh Sukamani

Kathford International College of Engineering and Management

Position: Associate Professor and Head of Department (Civil Engineering)

Relationship: Professor for Project Management and Construction Management course

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Hemant Tiwari, MSc (Transportation Engineering)

Traffic/Transport Engineer cum Planner & Road Safety Professional

General Secretary, Society of Transport Engineers Nepal (SoTEN)

Senior Transport Officer, Asian Development Bank

Relationship: Mentor and Project Supervisor for academic project and volunteering work

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Dr. Pradeep Kumar Shrestha

Visiting Faculty, Department of Civil Engineering

Kathford International College of Engineering and Management

Position: Professor of Transportation Engineering, Transport Planning & Engineering, and Road Safety

Relationship: Faculty professor and academic mentor

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