

Sushant Mishra

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BE Civil, IOE Pashchimanchal Campus, TU (2025) · looking for a junior structural or site role in Nepal under a licensed designer

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Kathmandu, Nepal

Summary

Civil engineer (BE, IOE Pashchimanchal 2025; NEC-registered General 'A'). Six months at Naksawala Engineering, Butwal, producing municipal-approval drawing sets, BOQs and rate analyses. Final-year lab project on reusing Siddhababa tunnel spoil as road aggregate. Since graduating I have been teaching myself seismic design to NBC 105:2025 through three self-directed ETABS/SAFE studies, and I publish the hand calculations alongside the models so the work can be checked.

Experience

Civil Engineering Intern, Building & Design – Naksawala Engineering Solution Pvt. Ltd., Butwal
Apr – Oct 2025 · 6 months

- Municipal-approval (Naksha Pass) drawing sets in AutoCAD: architectural and structural plans checked against the local building bylaws.
- Bills of quantities, cost estimates and rate analyses in Excel for tender documents and material procurement.
- SketchUp 3-D models of proposed buildings for client review.

Projects

02-A 3-storey RC frame, Lalitpur – base shear by hand to NBC 105:2025
Independent study · 2026 · ETABS · QGIS · NBC 105:2025 · IS 456
Equivalent Static Method, every input traced to a clause: $T_1 = 0.49$ s, Soil Type D, $Z = 0.35$, $C_d = 0.131$, $V \approx 236$ kN on $W = 1800$ kN; drift limits 0.025 ULS / 0.006 SLS. ETABS comparison pending a re-run on the Type D spectrum.

02-B Masonry infill as an equivalent diagonal strut
Independent study · 2026 · ETABS · FEMA 356 / ASCE 41 · IS 13920:2016
FEMA 356 / ASCE 41 strut, $w \approx 480$ mm for a 3 m × 3 m, 230 mm brick panel, as compression-only links in ETABS. Short-column shear beside a sill-level infill roughly +79% over the bare frame; full-height confinement per IS 13920:2016 cl. 7.6.4 / NBC 105:2025 Annex A (Ø10 + cross-ties @ 75 c/c).

02-C G+5 frame on a spring-supported raft, Madhyapur Thimi
Independent study · 2026 · ETABS · SAFE · QGIS · NBC 105:2025 · IS 1904 · IS 456
Winkler springs under a 24 m × 18 m frame on deep soft clay: period 0.82 → 1.14 s, base column moments –23%, drift +29%, base shear unchanged on the Type D plateau. 600 mm M30 raft in SAFE; differential settlement 18 mm over 6 m, $1/333 < 1/300$ (IS 1904). Liquefaction flagged; piles the next step.

03 Siddhababa tunnel spoil as road aggregate
Final-year major project · 2025 · Lab · Excel · IS 2386 · IS 2720 · IS 516 · MoRTH
127 kg of tunnel-bore rock tested in the campus lab: AIV 20 %, ACV 34.9 %, LAA 8.5–17.3 % (IS 2386), CBR 85 % unsoaked (IS 2720), 25 MPa cubes at 28 d (IS 516). Meets MoRTH limits for GSB and WMM, not a bituminous wearing course (ACV > 30 %); adequate for M20, mix adjustment needed for M25.

Education

BE Civil Engineering – IOE Pashchimanchal Campus, Tribhuvan University, Pokhara
2021 – 2025

+2 Science – Kathmandu Model Secondary School

Skills & registration

Software

ETABS, SAFE

AutoCAD 2D / 3D

SketchUp

QGIS

MS Excel BOQ, rate analysis

Laboratory

Concrete cubes IS 516

AIV, ACV, LAA IS 2386

CBR IS 2720

Particle-size distribution

Codes used

NBC 105:2025 incl. Annex A

IS 456:2000 · IS 13920:2016

IS 2386 · IS 2720 · MoRTH

FEMA 356 / ASCE 41 equivalent strut

Registration, certificate, languages

Nepal Engineering Council – Registered Engineer, General 'A'

AutoCAD Essentials – SourceCAD

English · Nepali · Hindi