Prashant Gautam

GRADUATE RESEARCH APPLICANT | POST-FIRE ASSESSMENT & REHABILITATION

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RESEARCH PROFILE

Civil engineer with direct field experience in post-fire assessment of existing government buildings. I contributed to investigation and testing of 44 buildings and supported damage classification, structural analysis, repair/retrofit recommendations, cost estimation and reporting. I want to build on this experience through graduate research on assessment, repair and rehabilitation of fire-affected concrete structures.

RESEARCH INTERESTS

POST-FIRE STRUCTURAL ASSESSMENT	Field methods for identifying, documenting and classifying damage in existing concrete structures.
REPAIR AND REHABILITATION	Assessment-led repair strategies that consider observed damage, material condition and practical construction constraints.
STRUCTURAL RETROFIT	Using structural analysis and field evidence to support retrofit decisions where capacity or detailing is affected.
DIAGNOSTICS AND TESTING	Non-destructive and supplementary testing to connect observed damage with engineering decisions.

PROFESSIONAL EXPERIENCE

Civil Engineer — Project / Site Management

Dibyashwori Nirman Sewa · Aug 2025 – Present

- Work across irrigation, mountain trail and tourism-infrastructure projects.
- Handle site supervision, surveying, measurement, drawing checks, quantity records, billing support, quality checks and progress documentation.

Project-Based Civil Engineer

Institute of Engineering Consultancy Services (IOECS) · Oct 2025 – Jul 2026

- Contributed to detailed post-fire assessments covering 44 government buildings.
- Supported field investigation, NDT/SDT and material testing, damage classification, ETABS assessment, repair/retrofit recommendations, cost estimation and technical reports.

Group Leader — Seismic Resistant Design of Multi-Storied RCC Commercial Building

Academic Project · 2024 – 2025

- Led structural modelling, analysis, design, code-based detailing, documentation and presentation for a B+G+9 RCC building.

FIELD EXPERIENCE RELEVANT TO RESEARCH

- 44 government buildings: contributed to detailed post-fire damage assessment work through IOECS.
- Field diagnostics: supported Rebound Hammer, UPV, Profometer, carbonation-depth and concrete-core testing.
- Assessment and recommendations: supported damage classification, ETABS assessment, repair/retrofit recommendations, cost estimation and technical reporting.
- Workflow exposure: worked from field observations and test results toward engineering recommendations and documented reporting.

POST-FIRE ASSESSMENT WORKFLOW

Field investigation → **NDT/SDT** → **damage classification** → **material testing** → **structural analysis** → **repair/retrofit** → **cost estimation** → **reporting.** My role covered field and technical support across this workflow, connecting observed conditions and test results with documented engineering recommendations.

TESTING & DIAGNOSTICS

Supported use of Rebound Hammer, UPV and Profometer and assisted with carbonation-depth measurement and concrete-core testing. These activities provided practical exposure to the limits of relying on visual observations alone and to the need for multiple sources of evidence when assessing existing structures.

STRUCTURAL ANALYSIS & REPAIR DECISIONS

Supported ETABS assessment, damage classification, repair/retrofit recommendations, cost estimation and technical reporting. This work gave me a direct interest in how assessment data can be turned into defensible decisions about repair, strengthening or further investigation.

TECHNICAL METHODS & TOOLS

ETABS · Rebound Hammer · UPV · Profometer · Carbonation-depth measurement · Concrete core cutting · Material testing · Technical reporting

POTENTIAL RESEARCH QUESTIONS

- How can field observations and non-destructive test results be combined into a consistent post-fire damage classification?
- How should repair and retrofit decisions account for uncertainty in the residual condition of fire-affected concrete?
- Which assessment indicators are most useful for deciding between repair, strengthening and replacement?

EDUCATION

Bachelor of Engineering in Civil Engineering · Pulchowk Campus, Institute of Engineering, Tribhuvan University

Academic project: Seismic Resistant Design of Multi-Storied RCC Commercial Building (B+G+9).

TRAINING, AFFILIATION & LANGUAGES

ADB-sponsored Road Slope Stability and Bio-Engineering — RCIP-AF TA-10113 NEP · Disaster Management Training — Armed Police Force (APF) Nepal · CESS-Nepal

Nepali — native · English — fluent · Hindi — understanding; limited spoken proficiency

References and supporting project material available on request.