HIROSHI YAMAMOTO

STRUCTURAL DYNAMICS ENGINEER

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SUMMARY

PE-licensed structural dynamics engineer with 10 years of experience in seismic, blast, and vibration analysis for critical facilities, bridges, and high-rise buildings. Expert in nonlinear time-history analysis, soil-structure interaction, and performance-based earthquake engineering. Completed 18 dynamics analyses for nuclear, DOD, and commercial projects valued up to $500M. Proficient in ANSYS, LS-DYNA, PERFORM-3D, and MATLAB.

EXPERIENCE

Senior Structural Dynamics Engineer

2018 – Present

AECOM

San Francisco, CA

Lead seismic and blast analysis for critical infrastructure and high-rise projects across the US.

- Performed nonlinear time-history seismic analyses for 8 critical facilities (DOE, DOD) valued at $120M–$500M, achieving performance objectives at DBE and MCE hazard levels.
- Conducted blast resistance design for 3 federal buildings per UFC 4-010-01, reducing fragility of glazing and structural systems by 45%.
- Led soil-structure interaction (SSI) studies for 5 nuclear facility projects using SASSI2010, confirming compliance with NRC RG 1.208.
- Developed floor response spectrum generation scripts in MATLAB, reducing analysis time by 40% across 10+ projects.
- Mentored 3 junior engineers on dynamics fundamentals, NRC regulatory requirements, and PERFORM-3D modeling best practices.

Structural Dynamics Engineer

2014 – 2018

Bechtel

San Francisco, CA

Provided structural dynamics analysis support for nuclear and industrial projects.

- Performed seismic qualification analyses for 200+ mechanical and electrical components at 3 nuclear power plants per IEEE 693 and ASCE 4-98.
- Developed equipment fragility curves for 12 critical systems using HCLPF methodology.
- Conducted vibration monitoring and troubleshooting for 5 rotating machinery installations, reducing vibration-induced fatigue failures by 30%.
- Supported FSAR preparation for 2 new nuclear units, authoring 8 chapters on structural dynamics and seismic design bases.
- Reduced analytical model build time by 25% through development of standardized ANSYS input decks for common structural configurations.

PROJECTS

High-Rise Building Project

Jan 2018 - May 2019

Team Leader

Design and Analysis of a High-Rise Building

Autodesk Revit • STAAD.Pro • Python

Structural Health Monitoring System

Jun 2017 - Aug 2017

Research Assistant

Development of a Structural Health Monitoring System

MATLAB • Simulink • Arduino

SKILLS

Nonlinear Time-History Analysis | ANSYS / LS-DYNA / PERFORM-3D | Soil-Structure Interaction (SSI) | Seismic Fragility / HCLPF | MATLAB for Structural Dynamics | Blast Resistance Design (UFC) | Nuclear QA (NQA-1) | SASSI2010 / SHAKE

EDUCATION

M.S. 2014

University of California, Berkeley Berkeley, CA

Structural Engineering / Structural Dynamics GPA: 3.9

LANGUAGES

English

CERTIFICATES

Structural Dynamics Certificate

The National Center for Simulation in Construction · Jun 2018

Certificate in Structural Dynamics