CHIAMAKA OBI

Structural Analysis Engineer

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Summary

Analytical Structural Analysis Engineer with 6 years at AECOM and HDR Engineering performing advanced finite element analysis on $800M+ in infrastructure and industrial projects. Improved team productivity by 25%, reduced material costs by $3.2M through FEA-driven optimization, and developed parametric analysis tools adopted firm-wide. PE licensed; proficient in Abaqus, ANSYS, and SAP2000.

Experience

AECOM

Seattle, WA

Structural Analysis Engineer

May 2021 - Present

Performed advanced structural analysis for complex infrastructure and industrial projects.

- Led finite element analysis (FEA) for $320M suspension bridge rehabilitation; identified 14 fatigue-critical details requiring retrofit, preventing potential $8M emergency repair scenario
- Developed Python-based parametric analysis workflow reducing repetitive FEA setup time by 62%; tool adopted by 11 colleagues across 3 offices
- Improved team productivity by 25% through code-based analysis templates and peer review standardization
- Performed dynamic analysis for $180M industrial compressor building; vibration criteria met without costly isolation system saving $2.1M
- Reduced material cost by $3.2M across 6 projects through FEA-driven structural optimization eliminating conservative over-design

HDR Engineering

Bellevue, WA

Structural Engineer

Jul 2018 - Apr 2021

Performed structural analysis for water/wastewater and transportation projects.

- Performed nonlinear seismic analysis on $92M water treatment facility; all structural elements within performance target with zero design revisions post-analysis
- Conducted fatigue analysis on $48M highway bridge; recommended welded connection improvements increasing rated fatigue life from 25 to 50 years

Skills

Abaqus FEA • ANSYS Mechanical • SAP2000 • Python (Structural Scripting) • Fatigue & Fracture Analysis
Nonlinear Dynamic Analysis • ASCE 7 / AISC / ACI Standards • Autodesk Revit

Certificates

Professional Engineer (PE) License

Jan 2018

State of California

Licensed Professional Engineer in the state of California, with expertise in structural engineering and analysis

Certified Structural Engineer (CSE)

Jun 2016

Structural Engineering Institute

Certified Structural Engineer, with expertise in structural analysis, design, and evaluation

Awards

Engineering Excellence Award

2019

American Society of Civil Engineers

Received the Engineering Excellence Award for outstanding contributions to the field of structural engineering, including innovative designs and analysis techniques

Outstanding Young Engineer Award

2017

Structural Engineering Institute

Received the Outstanding Young Engineer Award for exceptional leadership, technical expertise, and contributions to the field of structural engineering

Hobbies

Reading