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SUMMARY

PROFESSIONAL / TECHNICAL

- Finite elements & stress analysis of structures and assemblies
- Renewable energy conversion device support structures design and recommendations
- Design and analysis of steel, reinforced concrete & composites (FRP) structures and assemblies
- Design and analysis of structures under wind, fluid and seismic effects
- Expertise in ASD, LRFD, ACI, IBC, AISI design codes
- Knowledge of Offshore Structures analysis and design
- Knowledge of relevant API, EMEC, DNV, ISO standards for Offshore structures applications
- Investigative Consultant/ Expert witness

MANAGEMENT / BUDGETARY / INTEGRATOR OF OPERATION

- Market analysis, project feasibility studies, assessment of resources and potentials
- Proposal writing, project planning and management
- Management of Engineering / Drafting / Estimating teams
- Project Management & Effective budgeting of projects
- Troubleshooting of organizational inefficiencies
- Integration of operations in departments and SOP implementation

ACADEMIC / RESEARCH

- Principal Investigator in the Assessment of Renewable Energy Marine Installations and Offshore Structures
- Taught Civil Engineering classes and laboratories at Graduate and Undergraduate levels
- Mitigation of earthquake hazards and retrofitting

EXPERIENCE

FREE FLOW ENERGY, INC

2007 - Present

Senior Engineer / Principal

- Structural and infrastructure assessments
- Structural Engineering and Project Management activities
- Solicitation of grant projects. Most recent project is for the Ministry of Interior (Mineral Management Services)
- Partnerships with multi-disciplined educational and commercial entities to introduce more efficient hydrokinetic energy

Principal Investigator:

- "Assess the Design/Inspection Criteria/Standards for Wave and/or Current Energy Generating Devices" for Management of Mineral Services (MMS), Ministry of Interior

Engineering tasks for multiple manufacturing/engineering/construction companies:

- Analysis, Design and Optimization of structural components using high-end applications such as Ansys, SolidWorks, Cosmos, Staad, Visual Analysis, and others
- Design, Analysis and Verification of Steel, Concrete, Wood and Fiberglass Reinforced Polymers (FRP) structures, connections and their assemblies
- Performed structural/parts optimization. Advised of change in the geometry, material or material properties to maximize performance and economy
- Studies and predictions of Structural Failures
- Wrote VBA scripts and Macros for multiple applications to automate repetitive tasks
- Performed studies on Fluid-members interaction of structural components

Inspection & Failure Investigation

- Key Expert Witness and Engineering Consultant
- Site and structural inspection
- Review of design documents, specs and their conformance to codes

Business Consulting

- Budgeting, forecasting, delivery and reporting of project milestones
- Project management and definition of objectives, deployment
- Introduction of new compatible lines of business to small size businesses
- Studies of buyouts and acquisition feasibility of new businesses

DEPARTMENT DIRECTOR AND MANAGER

2001-2007

(Engineering, Construction and Manufacturing)

- Lead team of engineers/designers/draftsmen and estimators.
- Design of Residential and light Commercial Buildings. Steel, Reinforced Concrete and Wood materials.
- Applied knowledge of IBC, UBC, ACI, ASCE and ASD codes.
- Applied knowledge of Wind and Seismic designs.
- Designed and optimized structural members using FEA techniques
- Integrated design work from conceptual to actual design to budgeting
- Introduced systems and integrated department work
- Introduced and implemented an efficient and highly competitive design-quoting system that helped boost business bottom line
- Customized advanced integrated techniques of draft-design-estimate-quote for quick-turnaround service to customers
- Advised and supervised project managers on regular basis to keep projects on targeted budget, time and design guidelines
- Designed prefabricated building components from conceptual designs. Utilized advanced software such as Revit Structures and Optiframe.

**RESEARCH
AND
ACADEMIC**

FACULTY MEMBER / RESEARCHER

Clarkson University, Potsdam, NY

1997-2001

Hiroshima University, Hiroshima, Japan

1994-1998

- Taught Finite Element Analysis, Structural Analysis, Foundation Design, Senior Testing Lab. Strength of Materials and Statics, Design of Reinforced Concrete Structures, Design of Steel Structures and Preparation course for Fundamental Engineering test.
- Optimization of composite members based on American Codes; LFD and LRFD; (*A research program sponsored by American Institute of Steel Industry (AISI)*).
- Research program on composite walls and applicability of displacement-based design to Steel-Reinforced Concrete structures; (*A US-Japan cooperative research program on composite/hybrid structures.*)
- Finite element analysis and Testing of RC plates (in-plane and out-of-plane response).
- Directed the numerical work of graduate and undergraduate students.
- Developed analytical models for nonlinear response of RC materials.
- Wrote Finite Elements Codes for the analysis of non-linear response of reinforced concrete under combined loading

INTERNATIONAL

USA-JAPAN-CHINA COMMITTEE

1993 - 1997

- Member and coordinator of a team representing Japan in an international committee on the mitigation of earthquake hazards.
- Studies on the recent Code provisions and amendments in USA, China and Japan.
- Field studies and Inspections of the areas damages by earthquakes in the three countries.
- Exchange of scientific knowledge, current codes, mitigation efforts and state-of-art research in the field of earthquake engineering.
- Damage assessment and rehabilitation.
- Presentations of renaissance reports in the three participating countries

EDUCATION

Clarkson University, Potsdam, NY, Postdoctoral work, 2000

Hiroshima University, Japan, Ph.D. 1995, M.S. 1991 in Structural / Earthquake Engineering

PUBLICATIONS

- 7 refereed papers and publications (list available)
- More than (17) presentations and technical reports
- Most recent (Co-author): "Assess the Design/Inspection Criteria/Standards for Wave and/or Current Energy Generating Devices" for Management of Mineral Services (MMS), Ministry of Interior, USA (to be published by April '09).