HAMED AKBARPOUR, PH.D., A.M.ASCE, E.I.T.

Address: State College, PA   **Email:** hamed.a.1987@gmail.com   **Cell:**   **Status:** U.S. Permanent Resident

HIGHLIGHTS OF TECHNICAL QUALIFICATIONS --

Dedicated structural engineer with strong design and practical background in buildings and infrastructure, supported by more than 5 years of innovative academic and industrial experiences in:

- Modeling/analysis/design of steel, reinforced and prestressed concrete building-type structures
- Modeling/analysis/design of nonbuilding structures and their supporting steel structures
- Analysis/design/detail of connections
- Analysis/design/detail of gravity, lateral, and foundation systems
- Seismic evaluation and retrofit of structures with FRP
- Analysis/design of structures for fire and multi natural hazards and providing mitigation plans
- Performance-based seismic design of structures

- Probabilistic risk analysis
- Proficiency in using structural/finite element analysis software
- Static/pushover/modal/response spectrum/time history analysis
- Technical report preparation and site investigation
- Construction cost estimation
- Proficiency in using machine learning algorithms and artificial intelligence for solving complex problems in structural engineering
- Programming and software developing

SKILLS --

- **Proficiency in Structural/Finite Element Analysis Software:** SAP2000, ETABS, SAFE, RISA 3D, RISA Connection, RAM Structural System, RAM Connection, CSI Column, CSIBridge, Enercalc, ABAQUS, ANSYS, ZEUS-NL, OPENSEES
- **Proficiency in Drawing Software:** AutoCAD, Revit, DraftSight, PTC Creo 3D CAD
- **Strong Knowledge of Design Codes:** ACI318-14&19, ASCE7-10&16, AISC Steel Construction Manual, AISC Seismic Design Manual, ACI440.2R08, PCI Design Handbook, AISC341, AISC360, ASCE41, FEMA355C, FEMA461, FEMA P-695, FEMA P-1050, FEMA P-58, Eurocode1, ASTM Standards, ASME STS-1
- **Proficiency in Machine Learning Algorithms:** Artificial Neural Network, Fuzzy Logic, Adaptive Neuro-Fuzzy and Inference System
- **Proficiency in Programming Languages:** Fortran, MATLAB
- **Proficiency in General Software:** Microsoft Office (Word, Excel, PowerPoint), LaTeX, Adobe Acrobat, Mathcad

PROFFESIONAL/ACADEMIC EXPERIENCE ---

Staff Engineer, Dürr Universal Inc., USA   (Jan. 2021 – Present)
- Modeling/analysis/design/detail of nonbuilding and building steel structures using RISA 3D
- Analysis/design of connections of steel structures using RAM Connection and RISA Connection
- Finite element analysis of steel supports of nonbuilding structures under service (thermal) and strength load combinations per ASCE7-16 and ASME STS-1 recommendations, using RISA 3D and hand calculations
- Reviewing and responding to field issues RE erection and fabrication errors in supporting steel structures and providing necessary recommendations to the construction administration based on codes and standards
- Preparing technical reports, presenting them to customers and responding to their concerns/questions
- Preparing spreadsheets for the calculation of seismic forces, wind loads, structural components weights, thermal stresses, and stack wind resonance per relevant standards recommendations
- Coordinate work with engineers of other disciplines including mechanical, application, and project engineers

Teaching and Research Assistant, Pennsylvania State University, USA   (Jan. 2015 – Dec. 2019)
- Teaching CE342: Design of Steel Structures to almost 100 undergraduate students in the FALL19 semester
- Provided technical/computer modeling assistance to students for three courses: Structural Design of Foundations; Design of Steel Structures; Advanced Structural Design
- Hosted SAP2000 tutorial/help sessions for modeling and analyzing steel structures
- Developed an advanced inelastic dynamic analysis platform (ZEUS-NL) to perform sequential analysis for combined earthquake and fire loading scenarios

- Investigated the response of steel structures to natural fires, post-earthquake fires and combined earthquake-fire-aftershock scenarios

Structural Engineer, Ahoon Consulting Engineers, Architects & Planners, Tehran, Iran   (Oct. 2014 – Dec. 2014)
- Performed seismic analysis and design of steel and reinforced concrete residential and office buildings with different lateral load resisting systems using ETABS and SAP2000
- Analysis and design of foundation systems using SAFE
- Preparation of technical reports, drawings, calculations, and specification documenting the structural systems
- Presenting project submittals to clients and reviewing and responding their questions/concerns
- Site investigation of building construction to ensure compliance with approved construction drawings
- Coordinate work with architects and mechanical engineers

Structural Engineer, Tabarestan Mehrab & Tadbir Consulting Engineers Inc., Tehran, Iran   (Jan. 2010 – July 2014)
- Performed seismic analysis and design of commercial, office and residential buildings, industrial structures and infrastructures
- Performed seismic evaluation and retrofit of structures with FRP
- Analysis and design of foundations and retaining walls
- Reviewing different construction submittals for structures
- Preparation of technical reports and present technical information to clients

Research Assistant, Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran   (Sep. 2009 – Mar. 2012)
- Experimental and numerical studies on the behavior of full-scale wall-like rectangular reinforced concrete columns strengthened with carbon fiber-reinforced polymers (FRP) subjected to axial loading and bi-axial bending moments
- Analytical assessment of the ductility and strength of both unconfined and CFRP-confined short rectangular reinforced concrete columns under axial loading using ABAQUS and ANSYS
- Using machine learning algorithms for solving complex problems in civil/structural engineering

Structural Engineering Intern, Lar Consulting Engineers, Tehran, Iran   (May 2008 – Aug. 2008)
- Performed the design of a dike and its access roads

HONORS AND MEMBERSHIPS --

- Talented Student, M.Sc. entrance exam waived, Amirkabir University of Technology (Tehran Polytechnic)
- Passed FE Civil Exam (for the board of California)
- Member of ASCE, AISC, and Young Researcher and Elite Club

EDUCATION --

- **Pennsylvania State University, University Park, PA, USA**
  Ph.D. in Civil Engineering   (Jan. 2015 – Dec. 2019)

- **Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran**
  M.Sc. in Civil Engineering   (Sep. 2009 – Mar. 2012)
  B.Sc. in Civil Engineering   (Sep. 2005 – Sep. 2009)