**Dena Khatami**

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**Objective**

Seeking a full-time challenging job that involves projects lying in the field of structural engineering. I am also capable to apply mathematical statistics and data analysis in structural projects.

**Summary of Skills & Qualifications**

The primary focus of my research is to develop a computational framework for modeling deterioration process of bridges. To this end, I developed a three-dimensional finite element model for estimating corrosive ions concentration over time. My approach not only takes into account the site-specific aging mechanisms but it also considers the impact of extreme events such as earthquake and climate change on performance of bridges. Furthermore, my computational framework is verified with the historical bridge data and represents a good prediction of future conditions of bridges.

**Education**

* **Ph.D. Candidate in Civil Engineering, Major in Structural Engineering, Minor in Statistic**

Iowa State University, Ames, IA (Fall 2017, Expected; GPA: 3.95)

* **M.Sc. in Civil Engineering**

University of Massachusetts, Dartmouth, MA (2014; GPA: 3.85)

* **B.SC. in Civil Engineering**

University of Tehran, Tehran, Iran (2011; GPA: 17.1/20)

**Graduate Level Courses**

Structural Steel Design II; Reinforced Concrete Design II; Structural Dynamics; Finite Element Analysis; Advanced Mathematics; Applied Numerical Methods; Statistical Methods for Research; Reliability; Stochastic Process; Pollutant Transport in Environment; Physical Chemical Processes

**Work experience**

* Research assistant, Institute for transportation, Ames, IA *Spring 2015-present*

Analyzing inspection bridge data; bridge data management; Become familiar with bridge inspection manuals and maintenance actions; Risk management; stochastic process; Deterioration modeling; Life cycle cost analysis (participating in projects supported by Midwest Transportation Center and Iowa Department of Transportation)

* Intern, CVR Consulting Company, Tehran, Iran *Summer 2010*

Design calculations; AutoCAD technical drawings; Site visits; Inspecting and monitoring the process of the project based on as-built drawings; Cost analysis

**Academic Experiences**

* *Iowa State University, Ames, IA*
* Graduate Research Assistant at CCEE: Modeling the deterioration of structures under simultaneous effects of aging mechanisms and extreme events such as earthquake and climate change impact using finite element method, Markovian transition matrix, hazard functions, fragility and hazard curves, Bayesian methods, decision making models, inter rater reliability *Spring 2015-Present*
* Teaching Assistant of “**Reinforced Concrete Design I**” *Spring 2017*
* *University of Massachusetts Dartmouth, Dartmouth, MA*
* Graduate Research Assistant at CEE: Probabilistic modeling of Nano-silver reactions in environmental systems
* Teaching Assistant of “**AutoCAD Drawing**” *Fall 2013*
* *University of Tehran, Tehran, Iran*
* Undergraduate Research Assistant at Construction Materials Institute: Experimental study regarding the impact of additives such as Zeolite and Silica Fume on strength of concrete
* Undergraduate Teaching Assistant of “**FORTRAN Programming”**  *Fall 2009*

**Programming Languages & Professional Software**

* Proficient: MATLAB, ANSYS
* Intermediate: R and ETABS, SAP and PCA Structure Point RC Building & Design Software

**Honors, Grants, & Awards**

* Professional Development Grant (PAG), Travel Scholarship by Graduate and Professional Student Senate (GPSS), Iowa State University, Ames, IA (*Spring 2015*)
* Third place in Reinforced Concrete Beam Contest competition (max. load and deflection prediction using analytical and numerical methods), Iowa State University, Ames, IA (*Spring 2015*)

**Selected Publications**

* **Khatami, D.,** Shafei, B., and Smadi, O., (2016), “*Management of Bridges under Aging Mechanisms and Extreme Events: A Risk-Based Approach*”, Journal of Transportation Research Board 2550: 89-95.
* **Khatami, D.,** andShafei, B. “*Effect of environmental exposure on deterioration of infrastructures: Climate change impact*”, to be submitted to the Journal of Bridge Engineering.
* **Khatami, D.,** and Shafei, B. “*Management of bridge network under human factor uncertainties*”, to be submitted to the Reliability Engineering and System Safety.

**PAPERS IN REFEREED CONFERENCES**

* R. Rashetnia, A. Dousti, B. Ahmadi, **D. Khatami** and M. Shekarchi (2012), “*Effect of Natural Zeolite and Silica Fume as Pozzolanic Materials on the Chloride Diffusion of Concrete”*, International Congress on Durability of Concrete, Norway.
* **D. Khatami,** and B. Shafei (2015),“*Stochastic Assessment of Human Judgment Factor in Condition-Based Maintenance Strategies”*, Transportation Research Board (TRB) 94th Annual Conference, Washington, DC, USA.
* **Khatami, D.,** Shafei, B. (2016), “*Optimized Maintenance Policies for Deteriorating Structures*”, Geotechnical and Structural Engineering Congress, Phoenix, AZ, USA: pp. 602-612.
* **Khatami, D.,** Shafei, B. (2016), “*Effects of Environmental Stressors and Material Properties on Life-Cycle Durability of Reinforced Concrete Structures”*, IALCCE, Delft, the Netherlands.
* **Khatami, D.**, and Shafei, B. (2017), “*Climate Change Impact on Management of Deteriorating Bridges: Case Study of U.S. Midwest Region*”.Transportation Research Board (TRB) 96th Annual Meeting, Washington, DC.

**Oral & Poster Presentations**

* **Khatami, D.**, Tootkaboni, M. P., Hurt, R. and Pennell, K. G. (2013), “*Modeling of Nano-silver Reactions in Environmental Systems*”, Association of Environmental Engineers and Science Professors (AEESP) 50th Annual Conference, Denver, CO, USA.
* **Khatami, D.**, Shafei, B., Bektas, B. A., and Smadi, O. (2015), “*Optimized Decision Making Strategies for Deteriorating Civil Infrastructure Components”*, Mid-Continent Transportation Research Symposium, Ames, IA, USA.
* **Khatami, D.**, Shafei, B. (2015), “*Impact of Climate Change on Deterioration of Reinforced Concrete Structures*”, Structures Congress, Portland, OR, USA.
* **Khatami, D.**, and Shafei, B. (2015), “*Risk Based Management of Bridge Under Combined Effects of Aging Mechanisms and Extreme Events*”, Poster Presentation at the 5th Annual CCEE Graduate Student Research Showcase and Poster Competition, Iowa State University of Science and Technology, Ames, IA, December 3.
* **Khatami, D.,** and Shafei, B. (2015), “*A Statistical Approach for Management of Civil Infrastructure Components under Climate Change Effect*”,2nd Annual Graduate and Professional Student’s Research Conference (GPSRC), Iowa State University of Science and Technology, Ames, IA, April 2.
* **Khatami, D.,** and Shafei, B. (2016), “*Enhanced Bridge Management Systems: Incorporation of Gradual and Sudden Deterioration Mechanisms*”, 3nd Annual Graduate and Professional Student’s Research Conference (GPSRC), Iowa State University of Science and Technology, Ames, IA,USA.
* **Khatami, D.,** Shafei, B. (2016), “*Optimized Maintenance Policies for Deteriorating Structures*”, Geotechnical and Structural Engineering Congress, Phoenix, AZ, USA: pp. 602-612.
* **Khatami, D.,** and Shafei, B. (2016), “*Impact of Climate Change on Deterioration of Reinforced Concrete Structures”*,6nd Annual Graduate and Professional Student’s Research Conference (GPSRC), Iowa State University of Science and Technology, Ames, IA, November, 30.

**Professional Services & Memberships**

Student Member of American Society of Civil Engineering (ASCE); Student Member of American Concrete Institute (ACI); Treasurer of Iranian Students’ and Scholars’ Association (ISSA) at Iowa State University