

Puyan A. Zadeh, Dr.-Ing.

Adjunct Professor and Building Information Specialist

E-mail: me@puyanx.com

Web: <http://www.puyanx.com>

Summary of Qualification

- 10 years of research experience in Building Information Modeling (BIM)
- Extensive knowledge in BIM for FM (Facility Management)
- Strong background in computation and information technology in civil engineering and construction management
- Productive research career with proven track record
- Excellent leadership and mentorship skills, and teamwork experience in diverse work environments

Education

Technische Universität Darmstadt (TUDa), Darmstadt, Germany

Dr.-Ing. in Informatics in Civil Engineering

Nov. 2007 – July 2012

Dissertation: "Holistic Model-based Engineering Methods for High Performance Safety Analyses in Buildings,"

M.Sc. in Informatics in Civil Engineering

Sept. 2004 – Sept. 2007

Master's Thesis: "Development and Prototypical Implementation of a Software Module for Determination of Infiltration volumes (in Groundwater) on the Basis of Artificial Neural Networks (ANN)"

Iran University of Science and Technology (IUST), Tehran, Iran

B.Sc. in Civil Engineering

Sept. 1996 – June 2001

Research & Professional Experience

PYRAMOON BUILDING INFORMATION CONSULTING, Vancouver, Canada

March 2017 – Present

- Have been working as a self-employed building information consultant

University of British Columbia (UBC), Vancouver, Canada

Adjunct Professor

Sep. 2017 – Present

- **Construction Management Seminar (CIVL 597)**
- **Virtual Design and Construction (CIVL 526 / CIVL 426)**

Postdoctoral Fellow

Nov. 2013 – Feb. 2017

- **Building Information Modeling for Facility Operations (a Mitacs Accelerate project from November 2013 to November 2015)**
- **Information Quality Assessment (IQA) for FM purposes**
- **Knowledge-based Computational Design with Constructability Features**
- **Visualization Techniques for Construction Quality Assessment**
- **Co-author of a NSERC Engage grant proposal with the title: “Investigating the Impact of BIM and Computational Design on Construction Productivity” (January 2016)**
- **Redesigned and managed the “BIM TOPiCS Lab”**
- **Organized the UBC-TUDa Collaborative Research Workshop (September 2015)**
- **Organized the UBC-Pomerleau Inc. Collaborative Research Workshop (February 2016)**

IT Consultant at WiriTec, Bensheim, Germany

Feb. 2013 – May 2013

- **IT Consultant in the field of energy efficiency and energy data management**

Technische Universität Darmstadt (TUDa), Darmstadt, Germany

Scientific Employees

Nov. 2007 – Nov. 2012

- **Studied the behavior of endangered people in extreme situations like in fire emergencies**
- **Parallel computing for numerical fire simulations through several cluster computers**
- **Deployment of Artificial Intelligence (AI) in civil engineering issues particularly for groundwater level forecasting**
- **Researched the deployment of “Building Information Modeling” (BIM) for planning as well as the use of “High Performance Computing” (HPC) for visualization purposes in the multidisciplinary project: “Semi-centralized supply and disposal system for fast-growing urban areas”**
- **Coordinated the DAAD cooperation program “Qualification of Lecturers and Development of a New Courses for Computational Structural Engineering.” This program was a cooperation between Technische Universität Darmstadt, Germany and The University of Communications and Transport, Vietnam**
- **Development of several applications for Autodesk Revit to extend the abilities in BIM**
- **Co-designed and ordered equipment for new “Darmstadt Civil, Environmental and Safety Engineering Lab” (DACES) for studying the possibilities of the use of virtual reality in civil engineering issues**

Research Assistant

Sep. 2004 – Sep. 2007

- Worked as a research assistant (HiWi: Wissenschaftliche Hilfskraft) for different TUDa engineering institutes to develop IT solutions for their research projects

Coordinator

Dec. 2003

- Regional coordinator for humanitarian relief organizations after the earthquake in Bam, Iran.

Construction Engineer, Tehran, Iran

Feb. 2002 – Nov. 2003

- Worked as supervisor on different construction projects as the representation of the construction superintendent during the military service

Teaching and Mentoring Experience

University of British Columbia (UBC), Vancouver, Canada

Mentoring

Nov. 2013 – Feb. 2017

- Supporting the Master's thesis of four graduate students

Teaching

Nov. 2014 – Feb. 2017

Assisting Professor Prof. Dr. Staub-French in following course

- Virtual Design and Construction (CIVL 426/526) **2014 and 2015**

In this course, I helped to create and grade assignments, held the technical lectures, and provided office hours.

Technische Universität Darmstadt (TUDa), Darmstadt, Germany

Mentoring

Nov. 2007 – Nov. 2012

- Supervised Master's and Bachelor's thesis of five graduate and undergraduate students

Teaching

Nov. 2007 – Nov. 2012

Assisted Professor Prof. Dr.-Ing. Rüppel in following courses:

- Databases for Engineering Applications **2008 and 2009**
- Informatics in Civil Engineering (I and II) **2009 – 2012**
- Knowledge-based CAD/CAE **2008 and 2009**

In all these courses, I held lectures, helped to create curriculum, composed exams and term paper assignments, led discussion sessions, provided office hours, graded all written works and determined final grades.

In addition, I administered the e-learning platform of the IIB institute (BauKommPro)

Meetup.com, Vancouver, Canada

Teaching

Sep. 2014 – Feb. 2017

- Teaching German Language through Games (“Spielend Deutsch Lernen”)

As a volunteer, I design and hold this course in a biweekly basis.

Recent Publications

1. Puyan A. Zadeh, Guan Wang, Hasan Burak-Cavka, Sheryl Staub-French, Rachel Pottinger: *“Information Quality Assessment for Facility Management.”* Advanced Engineering Informatics (ADVEI), Volume 33, 2017, Pages 181-205, doi: 10.1016/j.aei.2017.06.003.
2. T. Sri Kalyan, Puyan A. Zadeh, Sheryl Staub-French, Thomas Froese: *“Construction Quality Assessment Using 3D as-built Models Generated with Project Tango,”* Proceedings of ICSDEC 2016: International Conference on Sustainable Design, Engineering and Construction, Procedia Engineering, Volume 145, 2016, Pages 1416-1423, ISSN 1877-7058, doi: 10.1016/j.proeng.2016.04.178.
3. Soojung Kim, Puyan A. Zadeh, Sheryl Staub-French, Thomas Froese, Belgin Terim Cavka: *“Assessment of the Impact of Window Size, Position and Orientation on Building Energy Load Using BIM,”* Proceedings of ICSDEC 2016: International Conference on Sustainable Design, Engineering and Construction, Procedia Engineering, Volume 145, 2016, Pages 1424-1431, ISSN 1877-7058, doi: 10.1016/j.proeng.2016.04.179.
4. Puyan A. Zadeh, Hasan Burak-Cavka, Sheryl Staub-French: *“BIM Information Quality Analysis for Space Management,”* 16th International Conference on Computing in Civil and Building Engineering (ICCCBE 2016), Osaka University, Osaka, Japan, 2016.
5. Puyan A. Zadeh, Sheryl Staub-French, Rachel Pottinger: *“Review of BIM Quality Assessment Approaches for Facility Management.”* Proceedings of ICSC15: The Canadian Society for Civil Engineering 5th International/11th Construction Specialty Conference, University of British Columbia, Vancouver, Canada. June 7-10, pp 1887-1896.

For more publications please visit: <http://bit.ly/Yrzp0m>

Languages Skills

Persian (Farsi): Native speaker

German: Very fluent in speaking, reading & written

English: High skills in speaking, reading & written English

French: Intermediate skills in speaking, reading & written French

Mandarin: Basic skills in speaking, reading & written Mandarin

Spanish: Basic skills in speaking, reading & written Spanish

Computer Skills (Summary)

Very familiar with:

- **Autodesk products and their API development such as Revit, Navisworks and AutoCAD**
- **Industry Foundation Classes (IFC)**
- **Familiar with a variety of different 3D modeling tools such as SketchUp, 3DS Max, CATIA, etc.**
- **Object Oriented Programming (OOP) software development with languages such as: C#, Java, C++, Python**
- **Augmented and virtual reality technologies**
- **Machine learning and artificial intelligence**
- **Database Management Systems (DBMS) like: MySQL and Microsoft SQL Server**
- **Parallel computing technologies**
- **Internet-based application programming with languages like: JSP, PHP, JavaScript, ASP**
- **XML technologies like: XML, XPATH, HTML5, XSL(T), RDF, SVG etc.**
- **Linux operating systems like: openSUSE and Debian**