

# Puyan A. Zadeh, Dr.-Ing.

## Adjunct Professor and Building Information Specialist

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### Summary of Qualification

- 11 years of research experience in Building Information Management (BIM) and project management
- Excellent management and mentorship skills, as well as teamwork experience in diverse work environments on three different continents
- Strong background in the application of modern technology and methods in civil engineering and construction management
- Productive research career with proven track record

### Professional Experience

#### University of British Columbia (UBC), Vancouver, Canada

##### Adjunct Professor

Sep. 2017 – Present

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

#### Pyramoon Building Information Consulting, Vancouver, Canada

March 2017 – Present

- Self-employed building information management consultant
- Helping clients to deal with building models and big data resulted from construction projects

#### Project Manager and Postdoctoral Fellow

Nov. 2013 – Feb. 2017

Managed projects:

- *Building Information Modeling for Facility Operations*  
a Mitacs Accelerate project from November 2013 to November 2015
- *Information Quality Assessment (IQA) for FM purposes*  
a research project from November 2013 to February 2017
- *AYO Smart Homes*  
a research project from September 2015 to October 2015
- *Redesign and management of the "BIM TOPiCS Lab"*

#### **Project participation as a researcher:**

- *UBC Centre for Interactive Research on Sustainability (CIRS)*  
Research on the operation and maintenance processes
- *UBC Orchard Commons*  
Research on the design, fabrication, and installation of the façade panels
- *Royal Alberta Museum (RAM)*  
Researched on the design and installation of mechanical facilities
- *UBC Pharmaceutical Sciences Building + Centre for Drug Research and Development*  
Research on the operation and maintenance processes
- *Nordstrom - Pacific Centre, Vancouver*  
Researched on the design and installation of mechanical facilities
- *VanDusen Botanical Garden Visitor Centre*  
Research on the design, fabrication, and installation of the roof components

#### **Grants and proposals:**

- Co-author of a NSERC Engage grant proposal with the title: "*Design Quality Assessment through Systematically Checking the Compliance of the BIMs (with the Project Requirements) for FM*" (July 2016)
- Co-author of a NSERC Engage grant proposal with the title: "*Investigating the Impact of BIM and Computational Design on Construction Productivity*" (January 2016)
- Co-author of a MITACS grant proposal with the title: "*Modular Affordable Sustainable Smart Homes (MASSH) – Research and Demonstration*" (October 2015)

#### **Managed seminars:**

- Organized the UBC–TUDa Collaborative Research Workshop (September 2015)
- Organized the UBC–Pomerleau Inc. Collaborative Research Workshop (February 2016)

## **Project Manager and Consultant at WiriTec, Bensheim, Germany**

**Feb. 2013 – May 2013**

- Managed projects in the field of energy efficiency and energy data management

## **Technische Universität Darmstadt (TUDa), Darmstadt, Germany**

### **Scientific Employees**

**Nov. 2007 – Nov. 2012**

#### **Managed projects:**

- *Behavior of endangered people in extreme situations*
- *"Semi-centralized supply and disposal system for fast-growing urban areas"*  
Researched the deployment of "Building Information Modeling" (BIM) for planning as well as the use of "High Performance Computing" (HPC) for visualization purposes
- *Parallel computing for numerical fire simulations*
- *Qualification of Lecturers and Development of a New Courses for Computational Structural Engineering.*  
This DAAD program was a cooperation between Technische Universität Darmstadt, Germany and The University of Communications and Transport, Vietnam
- *Design and management of the new "Darmstadt Civil, Environmental and Safety Engineering Lab" (DACES)*  
for studying the possibilities of the use of virtual reality in the civil engineering issues

#### **Grants and proposals:**

- Co-author of the DFG (German Research Foundation: Deutsche Forschungsgemeinschaft) project: *"Serious Human Rescue Game"*
- Co-author of the BMBF (German Federal Ministry for Education and Research) project: *"HiperSAFE - High-performed immersive parallel Safety engineering environment"*
- Co-author of the BMBF (German Federal Ministry for Education and Research) project: *"IPSEE: Immersive Parallel Safety Engineering Environment"*
- Co-author of the CASED project: *"Center for Advanced Security Research Darmstadt"*

#### **Managed seminars:**

- Organized the Virginia Tech–TUDa exchange student information seminar (June 2012)
- Organized the MIT–TUDa exchange student information seminar (July 2011)
- Organized the Tonji–TUDa exchange information seminar (October 2010)

## 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

## Project Coordinator

Dec. 2003

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

## Project Engineer, Tehran, Iran

Feb. 2002 – Nov. 2003

- Worked as a project coordinator on different construction projects as the representative of the project owner during the military service

## Education

### Technische Universität Darmstadt (TUDa), Darmstadt, Germany

Dr.-Ing. in Informatics in Civil Engineering

Nov. 2007 – July 2012

M.Sc. in Informatics in Civil Engineering

Sept. 2004 – Sept. 2007

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

B.Sc. in Civil Engineering

Sept. 1996 – June 2001

## Teaching and Mentoring Experience

### University of British Columbia (UBC), Vancouver, Canada

#### Mentoring

Nov. 2013 – Present

- Supporting the Master's thesis of four graduate students

#### Teaching

Nov. 2014 – Present

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

2017 – Present

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)

## 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

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

## Languages Skills

- Persian:** Native speaker
- German:** Very fluent in speaking, reading & written
- English:** Fluent 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.
- Augmented and virtual reality technologies
- Machine learning and artificial intelligence
- Parallel computing technologies
- Object Oriented Programming (OOP) software development with languages such as: C#, Java, C++, Python
- Database Management Systems (DBMS) like: MySQL and Microsoft SQL Server
- 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