Kamyar Fatemifar | BIM-AI-3D

VDC, Architect, Project Manager, Researcher, Full-Stack Developer

Atlanta, GA, USA

kfatemifar3@gatech.edu
linkedin.com/in/kamyar-fatemifar
www.horizonium.net/kamyar-fatemifar

Work Experience

Georgia Institute of Technology, Atlanta, GA – *Graduate Research Assistant* *August 2023 – Present*

Smart Built Environment Eco-System (Smart Bees) Lab, School of Building Construction

- Developed role based BIM data management strategies for distributed construction.
- Conducted research on effective BIM implementation for construction and logistics management.
- Built a local-LLM literature-review pipeline (llama.cpp, BGE-M3, OpenAlex/Semantic Scholar APIs).
- *Supervised by Prof. Pardis Pishdad.*

Physical Internet (PI) Lab, School of Industrial and Systems Engineering

- Developed and deployed immersive virtual-reality test and train web-app for modular construction with Unity, Unreal engine.
- *Supervised by Prof. Benoit Montreuil, Dr. Ali Barenji.*

Spatial Construx, Atlanta, GA – *Lead Software Developer (Summer Intern)* *June 2026 – August 2026*

- Built Spatial Construx Explorer, a mobile-first web BIM viewer (React, Three.js, Node.js, PostgreSQL); app.spatialconstrux.com.
- Developed the Revit 2026 exporter add-in (C#/.NET, Revit API) that writes encrypted glTF packages with full element data.
- Implemented walk-mode navigation, LOD streaming for large models, live multi-user sessions, and an AI assistant with voice.
- Shipped a plugin platform (crowd, process, and 4D/5D simulation), Stripe subscription tiers, and Docker/Cloudflare deployment.

Document Crunch, Atlanta, GA – *AI and Machine Learning Intern* *May 2025 – August 2025*

- Designed, tested, and fine-tuned object detection models for construction drawings.
- Developed and deployed local large language models (LLMs) to analyze and mitigate construction-related risks.

MiTek Inc., Atlanta, GA – *BIM Innovation Specialist (Summer Co-op)* *May 2024 – August 2024*

- Developed BIM implementation strategies and standardized practice for modular construction.
- Conducted technical BIM modeling/drafting for distributed construction.
- Facility layout design, planning and visualization for prefabricated construction manufacturing plant performance optimization

IAUCTB & Tarbiat Modares University, Tehran, Iran – *BIM Instructor* *September 2019 – January 2023*

- Conducted workshops and public courses on "Revit and BIM", "3ds Max visualization", "Rhino 3D parametric design".
- Held private tutoring courses of "hard surface 3D modeling and optimization".
- Instructed a graduate course on "BIM for project management".

Horizon Studio, Tehran, Iran – *Co-founder, BIM Specialist, 3D Arts Director* *July 2017 – May 2023*

- Developed and supervised the development of BIMs for interactive VR projects with Unreal Engine.
- Performed managerial duties as scrum master, project planner, performance controler, financial manager, and market analyst.
- Developed and supervised the development of 3D assets and virtual objects for Unreal Engine marketplace "FAB".
- Served as a tutor and coach for on going development of several interns and employees.

International BIM Conference, Tehran, Iran – *Executive Team Member* *March 2018 – October 2021*

Participated as an Executive Team Member and Educational Director at the 1st to 5th International BIM Conference.

Tadbir Eskan, Tehran, Iran – *3D Detail Designer* *December 2016 – January 2017*

Rendered design ideas in the form of paste-ups and drawings; inspected construction work on-site.

Decorisa, Tehran, Iran – *3D Artist and Interior Designer* *September 2015 – January 2016*

Advised clients on interior design factors; presented design ideas in 3D renderings and drawings.

Alesh Saze, Tehran, Iran – *3D Generalist and Shop-drawing Specialist* *August 2013 – January 2015*

Drafted plans and detailed drawings for construction; generated schedules, dates, and procedures.

Education

Georgia Institute of Technology, Atlanta, GA – *Ph.D. in Building Construction* *August 2023 – Present*

3rd year

Georgia Institute of Technology, Atlanta, GA – *M.Sc. in Computer Science* *January 2024 – Present*

Concurrent with the Ph.D.

Tarbiat Modares University, Tehran, Iran – *M.Sc. in Project Management* *September 2017 – February 2021*

GPA 17.75/20, A+ Thesis (19/20)

Azad University Central Tehran (IAUCTB), Tehran, Iran – *B.A. in Architecture* *September 2012 – June 2017*
GPA 17.50/20, A+ Thesis (18.25/20)

Technical Skills

BIM: Revit, Revit API, Navisworks, Dynamo, ACC/BIM 360, Solibri, Tekla, VisualARQ, QGIS, AutoCAD
Programming: Python, C#/.NET, C++, JavaScript, SQL, PHP
Web and Full-Stack: React, Three.js, Node.js/Express, PostgreSQL, WebSockets, HTML/CSS, WordPress, Figma
Real-Time 3D and Game Engines: Unreal Engine, Unity (UI Toolkit), WebGL, glTF/GLB, LOD/mesh optimization
AI and ML: scikit-learn, Hugging Face Transformers, Object Detection, LLM Fine-tuning and Local Deployment (Ollama, llama.cpp), OpenAI-compatible APIs, TTS/STT, Agentic Coding (Claude Code, Cursor, Codex)
Cloud and DevOps: Docker, Git/GitHub, Cloudflare, DigitalOcean, AWS, MS-Azure, Databricks, Google Colab
Project Management: PMBOK, Agile, Scrum, Microsoft Project, Excel with VBA, Primavera, Trello
Generative and Parametric Design: Rhino 3D, Grasshopper, Ladybug tools, Galapagos, Kangaroo, Anemone
3D Motion and Visualization: 3ds Max, Corona/Vray, Blender, Maya, Sketchup, Substance Painter
Design and Graphics: Drafting, Space Planning, Interior Design, Photoshop, Illustrator, After Effects, Premiere
Research and Academic Writing: LaTeX, MS Office, Google Docs, Mendeley, OpenRefine, Zotero, Endnote, D3

Publications

Leadership in Project Management: A Scoping Review, Fard, H. D., Hajiani, M., Fatemifar, K., Khabbaz, M. G., *International Journal of Project Organisation and Management*, 12(1), 74–116, 2020. *DOI:* 10.1504/IJPOM.2020.105705.
BIM and IoT Integration for Construction and Logistics Management: A State-of-the-Art Review, Fatemifar, K., Zeng, Q., Pishdad, P., *Proc. IGLC 32 (Int. Group for Lean Construction)*, 633–647, 2024. *DOI:* 10.24928/2024/0123.
Multi-objective Generative Design Based on Outdoor Environmental Factors: An Educational Complex Design Case Study, Fatemifar, K., Zeng, Q., Tayefeh-Yaraghbafha, A., Pishdad, P., *Proc. ICCEPM*, 2024. *DOI:* 10.6106/ICCEPM.2024.0585.
Enhancing Consistency and Flexibility of BIM Data Management with Digital Automation Solutions, Fatemifar, K., Zeng, Q., Valdes, F., Pishdad, P., *Proc. SIGraDi 2024*, 1377–1388, 2024. *URL:* sigradi.org/sigradi2024.
Integrating Emerging Technologies in Construction Graduate Education: An Experiential Learning Experience through a Collaborative Digital Twin Project, Zeng, Q., Nguyen, T. D., Fatemifar, K., Baru, A., Garcia, L., Wen, J., *ASEE Annual Conference & Exposition*, 2025. *DOI:* 10.18260/1-2–56829.
Propelling Process Improvement in Modular Construction by Leveraging Fine-Granularity Operations Modeling and Animation, Garcia, J. E., Fatemifar, K., Barenji, A., Benaben, F., Montreuil, B., *Proc. IISE Annual Conf.*, 2025. *DOI:* 10.21872/2025IISE_6643.
Enhancing Indoor Thermal Comfort in Educational Settings through Adaptive HVAC Control and Seating Recommendations, Zeng, Q., Shagar, M., Fatemifar, K., Pishdad, P., Yang, E., *CIB Conferences*, 1(1), 98, 2025. *DOI:* 10.7771/3067-4883.2030.
Defining and Prioritising Key Competencies for Digital Transformation Leaders in Project-oriented Organisations within the National Construction Industry, Ghalejoogh, S. P., Fatemifar, K., Arbabi, H., *International Journal of Project Organisation and Management*, 17(2), 153–167, 2025. *DOI:* 10.1504/IJPOM.2025.146739.
Enhancing Subcontractor Performance in Construction Projects through Gamification, Nadji, N., Fatemifar, K., Montreuil, B., Shaafi, F., *Proc. IISE Annual Conf.*, 2025. *DOI:* 10.21872/2025IISE_6913.

Honors and Awards

Apr 2021: 2nd place in GeCCo Global E-Collaboration competition by global IPMA young crew
Dec 2018: Finalist in Residential Stadium Archstorming competition
Jan 2020: 1st place winner in Rah Bagh Naeem urban-design competition, issued by Diba Group.
Feb 2018, Jan 2019: 1st and 2nd place (team member) in the 1st and 2nd Water in Tehran urban-design competitions.
Oct 2021: NASA's International Space Apps challenge participant

Languages

English: Fluent (TOEFL 107: R29, L29, S25, W24; GRE 312), **Farsi:** Native, **French:** Intermediate, **German:** Basic