



Walker Escobar

Assistant Professor, Construction Management and Advanced Building Technology

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SUMMARY

Construction management educator and researcher with eight years of university and postdoctoral experience connecting BIM, VDC, **digital twins**, reality capture, **project controls**, automation, and sustainable delivery. Develops active learning for **construction management**, cost, estimating, safety, risk, and digital construction courses, then guides students through practical research and field based analysis. Scholarship links drones, photogrammetry, construction data, AI, and machine learning with coordination, quality, verification, **performance monitoring**, and informed decisions. Contributes to interdisciplinary proposals with engineering, architecture, computing, government, and industry partners, supporting external funding efforts. Brings experience mentoring researchers, coordinating academic activities, supporting recruitment, and advancing high performance built environments through collaborative teaching, research, and service.

EXPERIENCE

Assistant Professor, Construction Management

Sonoran Institute of Technology 📅 August 2022 - Present 📍 Tempe, AZ

Lead university teaching, research, mentoring, proposal development, and service across digital construction, project controls, **sustainable delivery**, and built environment studies.

- Connected BIM and digital twins with project controls for clearer construction **verification** decisions
- Used drone imagery and **photogrammetry** to assess progress, field conditions, and model accuracy
- Delivered **active learning** cases in cost management, **BIM**, digital construction, and project controls
- Guided student researchers through study design, data collection, software use, and technical communication
- Contributed interdisciplinary proposals with engineering, architecture, computing, government, and industry partners
- Supported recruitment, curriculum coordination, **academic records**, and sustainable built environment initiatives

Research Assistant Professor, Construction Engineering

Desert State University 📅 July 2020 - July 2022 📍 Phoenix, AZ

Directed applied **construction engineering** studies while teaching, mentoring researchers, developing collaborative proposals, and translating digital methods into practical delivery decisions.

- Linked BIM, VDC, and digital twins with cost, schedule, **coordination**, and performance analysis
- Built photogrammetry studies from drone imagery and field records for construction status evaluation
- Taught **construction management** through active cases involving project controls, cost, and digital workflows
- Mentored researchers on responsible methods, presentations, technical writing, and **construction software**
- Supported collaborative funding proposals spanning engineering, architecture, computing, government, and industry
- Advanced curriculum, **research** operations, **student recruitment**, and service for sustainable construction education

Postdoctoral Research Associate, Built Environment Systems

Mountain West University 📅 June 2018 - June 2020 📍 Boulder, CO

Supported interdisciplinary built environment research focused on digital construction, reality capture, **project controls**, sustainable performance, and evidence based field decisions.

- Evaluated digital twin workflows for coordination, verification, schedule review, and **performance monitoring**

STRENGTHS



Research Translation

Turned BIM, field evidence, and digital twin findings into practical decisions that improved coordination and gained partner confidence.



Active Teaching

Used realistic project cases in controls and estimating classes. Students connected software outputs with decisions made on active jobs.



Student Mentoring

Guided researchers from study design through presentations. Students often returned for advice on methods, writing, and software.



Proposal Collaboration

Joined engineering, architecture, computing, government, and industry partners. Shared work became clearer and more useful for funding teams.



Sustainable Delivery

Connected digital methods with quality, safety, cost, and environmental performance. That broader view kept research grounded in practice.

SKILLS

Construction Management

Advanced Building Technology

BIM Digital Twins

Project Controls Cost Estimating

Risk Management

Construction Safety

Lean Construction

Photogrammetry Drones

VR and AR Data Analytics

Active Learning Student Mentoring

LANGUAGES

English Native

Spanish Proficient

MY CAREER



● Assistant Professor, Construction Management at Sonoran Institute of Technology (4.2 Years)

● Research Assistant Professor, Construction Engineering at Desert State University (2 Years)

● Postdoctoral Research Associate, Built Environment Systems at Mountain West University (2 Years)

● Graduate Research and Teaching Fellow, Construction Engineering at Front Range University (3.8 Years)

- Processed drone imagery and **photogrammetry** records for model based progress studies
- Applied **active learning** methods while supporting **construction management** instruction and student projects
- Prepared **research** materials, technical presentations, and written findings for multidisciplinary teams
- Contributed proposal development with engineering, architecture, computing, agency, and industry collaborators
- Assisted curriculum, recruitment, research administration, and sustainable built environment activities

Graduate Research and Teaching Fellow, Construction Engineering

Front Range University 📅 August 2014 - May 2018 📍 Fort Collins, CO

Combined supervised research and **teaching** support across construction engineering, digital modeling, field verification, project controls, and student learning activities.

- Investigated BIM and VDC applications for construction coordination and field verification
- Collected drone imagery, photogrammetry data, models, and field records for research analysis
- Supported active learning in **cost** management, **project controls**, and construction technology courses
- Coached students on **construction software**, **research** design, presentations, and technical writing
- Helped prepare interdisciplinary proposals involving engineering, architecture, computing, and industry partners
- Supported **academic records**, recruitment activities, curriculum work, and research operations

PROJECTS

Digital Twin Progress Verification Study 📅 2022

A field record rarely tells a complete story. Combined BIM, drone imagery, photogrammetry, and project controls for model based progress verification, coordination review, and performance analysis.

Data Driven Sustainable Construction Framework 📅 2021

Small decisions shape long project outcomes. Connected construction data, cost, schedule, quality, safety, and environmental performance for more informed delivery planning.

Active Learning Construction Controls Studio 📅 2019

Students learned fastest when project decisions felt real. Built cases joining estimating, risk, schedule, BIM, and field evidence within collaborative construction management instruction.

LEADERSHIP & AWARDS

- Faculty Research Seed Grant, Sonoran Institute of Technology, 2024
- Outstanding Construction Education Paper Recognition, Regional Built Environment Research Conference, 2023
- Faculty advisor, Construction Innovation Student Group, 2023 - Present

EDUCATION

Doctor of Philosophy in Construction Engineering

Front Range University 🎓 GPA: 4.0 📅 2018 📍 Fort Collins, CO

Coursework: BIM, construction automation, project controls, research methods

Master of Science in Construction Management

Great Plains University 🎓 GPA: 4.0 📅 2014 📍 United States

Coursework: Cost estimating, Lean construction, construction safety, project economics

Bachelor of Science in Civil Engineering

Mesa Valley University 🎓 GPA: 4.0 📅 2012 📍 United States

Coursework: Structural systems, building materials, engineering economics, construction methods

CERTIFICATIONS

- Autodesk Certified Professional, Revit for Architectural Design 📅 2021
- OSHA 30 Hour Construction Safety 📅 2020

TECHNICAL SKILLS

- **Building Information Modeling:** BIM, Autodesk Revit, VDC
- **Digital Construction:** Digital twins, model coordination, data driven construction
- **Reality Capture:** Drones, photogrammetry, field verification
- **Project Controls:** Cost management, schedule integration, progress tracking
- **Construction Safety:** OSHA 30 Hour, hazard analysis, safety planning
- **Lean Construction:** Lean methods, workflow planning, waste reduction
- **Research Methods:** Study design, data collection, technical writing
- **Teaching Methods:** Active learning, course design, student mentoring
- **Artificial Intelligence:** AI applications, machine learning, construction analytics
- **Construction Performance:** Quality monitoring, performance monitoring, material tracking
- **Proposal Development:** External funding, collaborative proposals, research partnerships

PROFESSIONAL AFFILIATIONS

- Interdisciplinary Built Environment Research Working Group, 2022 - Present
- Construction Innovation Student Group, Faculty Advisor, 2023 - Present

ADDITIONAL INFORMATION

Work Status : Authorized to work in United States. No sponsorship required.

REFERENCES

AVAILABLE ON REQUEST