

Walker Escobar

☎ (480) 555-6247 ✉ walker.escobar@example.com 🔗 linkedin.com/example/walkerescobar 📍 Tempe, AZ 85281

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

August 2022 - Present

Sonoran Institute of Technology

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

July 2020 - July 2022

Desert State University

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

June 2018 - June 2020

Mountain West University

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**
- 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

August 2014 - May 2018

Front Range University

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 Engineering2018
Front Range University GPA: 4.0Fort Collins, CO
Coursework: BIM, construction automation, project controls, research methods

Master of Science in Construction Management2014
Great Plains University GPA: 4.0United States
Coursework: Cost estimating, Lean construction, construction safety, project economics

Bachelor of Science in Civil Engineering2012
Mesa Valley University GPA: 4.0United 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

SKILLS

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|--------------------------------|-----------------------|---------------------|---------------------|
| • Construction Management | • Project Controls | • Lean Construction | • Data Analytics |
| • Advanced Building Technology | • Cost Estimating | • Photogrammetry | • Active Learning |
| • BIM | • Risk Management | • Drones | • Student Mentoring |
| • Digital Twins | • Construction Safety | • VR and AR | |

PROFESSIONAL AFFILIATIONS

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

LANGUAGES

- English (Native)
- Spanish (Proficient)

ADDITIONAL INFORMATION

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

REFERENCES

AVAILABLE ON REQUEST