

# Shadi Alathamneh, PhD

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## Education

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### Doctor of Philosophy (2026)

Auburn University – McWhorter School of Building Science

*Concentration: Building Construction – Custom AI Agents for Construction Management Education*

### Graduate Certificate: University Teaching (2024)

Auburn University – College of Education.

*15 Credit Hours of Higher-education Coursework and a Supervised Teaching Practicum*

### Master of Building Construction (2023)

Auburn University – McWhorter School of Building Science

*Concentration: Building Construction – 3D Laser Scanning & Prefabrication*

### Bachelor of Science (2020)

Jordan University of Science and Technology, College of Architecture and Design

*Concentration: Architecture*

## Academic and Professional Experience

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### Assistant Professor (Aug 2026 – Present)

Auburn University – McWhorter School of Building Science

### Graduate Teaching/Research Assistant (2022 - 2026)

Auburn University – McWhorter School of Building Science

### Assistant Project Manager (2025)

Compass Construction LLC, Opelika, Alabama

### Intern Architect (2021)

Greater Irbid Municipality, Jordan.

### Owner Representative (2020 - 2021)

Residential Project, Self-employed, Jordan.

## Selected Honors and Awards

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Outstanding Doctoral Student Award 2024 - 2025. Auburn University

Outstanding Graduate Student Award 2022 - 2023. McWhorter School of Building Science

## Courses Taught at Auburn University

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| Course Number | Course Name & Credit Hours                 | Undergrad or Grad | Typical Enrollment | Sections Taught |
|---------------|--------------------------------------------|-------------------|--------------------|-----------------|
| BSCI3500      | Construction Information Technology I (3)  | Undergrad         | 20                 | 3               |
| BSCI4500      | Construction Information Technology II (3) | Undergrad         | 20                 | 2               |

## Student Competition Teams Co-Coached

| Year | Competition  | Location                   | Team     | Finished              |
|------|--------------|----------------------------|----------|-----------------------|
| 2026 | ASC Region 2 | Greenville, South Carolina | Graduate | In-process            |
| 2025 | ASC Region 2 | Greenville, South Carolina | Graduate | 2 <sup>nd</sup> Place |
| 2025 | ASC Region 2 | Greenville, South Carolina | Pre-con  | 3 <sup>rd</sup> Place |
| 2024 | ASC Region 2 | Greenville, South Carolina | Graduate | 2 <sup>nd</sup> Place |

## Academic Journal Articles

[GoogleScholar](#) | [ResearchGate](#) | [ORCID](#)

1. Li, B.\*, Willkens, D., **Alathamneh, S.**, Park, S. C., & Liu, J. (2025). Digitally Decoding Heritage: Analyzing the Sellman Tenant House Through HBIM and Digital Documentation Techniques. *Virtual Worlds*, 4(1), Article 1. <https://doi.org/10.3390/virtualworlds4010010>
2. **Alathamneh, S.\***, Collins, W., & Azhar, S. (2024). BIM-based quantity takeoff: Current state and future opportunities. *Automation in Construction*, 165, 105549. <https://doi.org/10.1016/j.autcon.2024.105549>
3. Willkens, D.\*, Liu, J., & **Alathamneh, S.** (2024). A Case Study of Integrating Terrestrial Laser Scanning (TLS) and Building Information Modeling (BIM) in Heritage Bridge Documentation: The Edmund Pettus Bridge. *Buildings*, 14(7), Article 7. <https://doi.org/10.3390/buildings14071940>

## Technical Reports & Documents:

1. Willkens, D. S., Liu, J., & **Alathamneh, S.** (2024). Historic American Engineering Record (HAER) Drawing Set: Edmund Pettus Bridge, Selma, AL (HAER AL-209). U.S. Dept. of the Interior, National Park Service, Historic Documentation Programs, January 2024. Indexed by the [Library of Congress](#). <https://www.loc.gov/pictures/collection/hh/item/al1351/>

## Papers in Refereed Conference Proceedings

1. **Alathamneh, S.\***, & Collins, W. (2026). Leveraging Generative AI for Asynchronous Learning in Construction Education: A Pilot Case Study on BIM-Based Quantity Takeoff. *Proceedings of the CI & CRC Joint Conference 2026*. San Antonio, TX.
2. **Alathamneh, S.\***, Liu, J. & Chaudhry, H. (2026). Photogrammetry as an Affordable Alternative to Laser Scanning for Small and Mid-Size Construction Firms. *Proceedings of the 62nd Annual Associated Schools of Construction International Conference*. San Luis Obispo, CA.
3. Jebarah, I.\*, Collins, W., & **Alathamneh, S.** (2026). Systematic review of the ASC Conference Proceedings from 2007 – 2025. *Proceedings of the 62nd Annual Associated Schools of Construction International Conference*. San Luis Obispo, CA.
4. **Alathamneh, S.\***, Collins, W., Sands, K., Leathem, T., & Liu, J. (2025). Artificial Intelligence and Building Information Modeling in Construction: Applications, Challenges, and Future Opportunities. *Proceedings of The 23rd CIB World Building Congress*. Purdue University, West Lafayette, Indiana. <https://doi.org/10.7771/3067-4883.1913>
5. **Alathamneh, S.\***, & Collins, W. (2025). Evaluating Software Ecosystems in Large-Scale Commercial Construction Projects and Implications for Construction Management Education. *Proceedings of the 61st Annual Associated Schools of Construction International Conference*. 411–400. Calgary, Alberta, Canada. <https://doi.org/10.29007/nvd9>
6. **Alathamneh, S.\***, Liu, J., Collins, W. & Holley, P. (2024). Innovations In Drywall Installation Through Integrating Terrestrial Laser Scanning (TLS) And Building Information Modeling (BIM). *The*

14th International Conference on Construction in the 21st Century - CITC-14. Rio De Janeiro, Brazil. [Scopus EID: 2-s2.0-105004738014](#)

7. **Alathamneh, S.\***, Yucel, B., Liu, J. & Kramer, S. (2024). A Comparative Analysis of Point Clouds Acquired from Terrestrial Laser Scanning, UAV Photogrammetry, UAV-based LiDAR, and 3D Virtual Tours in the Built Environment. *Proceedings of the 10th International Conference on Construction Engineering and Project Management (ICCEPM)*. Hokkaido, Japan. <https://doi.org/10.6106/ICCEPM.2024.0277>
8. Collins, W.\* & **Alathamneh, S.** (2024). Occupational Outlook Handbook Description of Construction Cost Estimator-Related Occupations – 1949 to Present. *Proceedings of the 14th International Conference on Construction in the 21st Century - CITC-14*. Rio De Janeiro, Brazil. [Scopus EID: 2-s2.0-105004724275](#)
9. Anwar, I.\*, **Alathamneh, S.** & Liu, J. (2024). Terrestrial Laser Scanning and UAV Laser Scanning: Comparing Point Cloud Accuracy for Digital Elevation Model. *Proceedings of the 60th Annual Associated Schools of Construction International Conference*. Auburn, Alabama. <https://doi.org/10.29007/jqwh>
10. Yucel, B.\*, Liu, J. & **Alathamneh, S.** (2024). A Comparative Analysis of Point Clouds Acquired from UAV Photogrammetry and UAV-based LiDAR in Built Environment. *Proceedings of the 60th Annual Associated Schools of Construction International Conference*. Auburn, Alabama. <https://doi.org/10.29007/hr8w>
11. **Alathamneh, S.\***, Liu, J., Azhar, S., & Burt, R. B. (2023). Reality Capture (RC) Technology for Drywall Installation: A Scan-to Prefab Approach. *Proceedings of the 16th International Conference on Durability of Building Materials and Components (XVI DBMC)*. <https://doi.org/10.23967/c.dbmc.2023.088>
12. Liu, J.\*, Willkens, D.\*, López, C., Cortés-Meseguer, L., García-Valldecabres, J. L., Escudero, P. A., & **Alathamneh, S.** (2023). Comparative Analysis of Point Clouds Acquired from a TLS Survey and a 3d Virtual Tour for HBIM Development. *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, XLVIII-M-2-2023*, 959–968. <https://doi.org/10.5194/isprs-archives-XLVIII-M-2-2023-959-2023>

## Conference Oral Presentations

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1. **Alathamneh, S.\***, & Collins, W. (2026). Leveraging Generative AI for Asynchronous Learning in Construction Education: A Pilot Case Study on BIM-Based Quantity Takeoff. *Proceedings of the CI & CRC Joint Conference 2026*. San Antonio, TX. [Paper Session]
2. **Alathamneh, S.\***, Liu, J. & Chaudhry, H. (2026). Photogrammetry as an Affordable Alternative to Laser Scanning for Small and Mid-Size Construction Firms. *Proceedings of the 62nd Annual Associated Schools of Construction International Conference*. San Luis Obispo, CA. [Paper Session]
3. **Alathamneh, S.\***, Collins, W., Sands, K., Leathem, T. & Liu, J. (2025). Artificial Intelligence and Building Information Modeling in Construction: Applications, Challenges, and Future Opportunities. *The 23rd CIB World Building Congress*. Purdue University, West Lafayette, USA. [Paper Session]
4. **Alathamneh, S.\*** (2025). Customized AI Agents in Construction Education: Asynchronous Learning and Virtual Assistance for BIM and Preconstruction Skill Development. *The 61st Annual ASC International Conference*. Calgary, Alberta, Canada. [Doctoral Forum]
5. **Alathamneh, S.\*** & Collins, W. (2025). Evaluating Software Ecosystems in Large-scale Commercial Construction Projects and Implications for Construction Management Education. *Proceedings of the*

61st Annual Associated Schools of Construction International Conference. Calgary, Alberta, Canada. [Paper]

6. **Alathamneh, S.\***, Liu, J., Collins, W. & Holley, P. (2024). Innovations In Drywall Installation Through Integrating Terrestrial Laser Scanning (TLS) And Building Information Modeling (BIM). *14th International Conference on Construction in the 21st Century (CITC-14)*. Rio De Janeiro, Brazil. [Paper Session]
7. **Alathamneh, S.\*** (2024). Toward Tomorrow's Estimating Profession: A Comprehensive Study on BIM-Based Quantity Takeoff, Curriculum Assessment, and Professional Upskilling. *The 60th Annual ASC International Conference*. Auburn University, AL. [Doctoral Forum]
8. Liu, J.\* & **Alathamneh, S.\*** (2024). Modeling and Monitoring the Rosenwald Ideal: Digital Documentation and Preservation at the Tankersley Rosenwald School, AL. *The Southeast Chapter of The Society of Architectural Historians Annual Conference 2024*. Marietta, GA. [Panel Discussion]
9. Collins, W. & **Alathamneh, S.\*** (2024). Occupational Outlook Handbook Description of Construction Cost Estimator-Related Occupations – 1949 to Present. *The 14th International Conference on Construction in the 21st Century (CITC-14)*. Rio De Janeiro, Brazil. [Paper Session]

**Internal Research Funding Received from Auburn University** **Total: [\$124,304]**

| Name of Grant                                                                                                                                                                         | Years of Funding | Total Amount | Percent of Effort | Funding Source         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------|-------------------|------------------------|
| Mapping Subterranean Landscape: A Hybrid LiDAR–Photogrammetry Study of the Historic Manitou Cave                                                                                      | 2025-2026        | \$5,000      | 80%               | McWhorter Funds        |
| Reality Capture and 3D Mold Fabrication for Historic Ornament Replication: The Comer Hall Case Study                                                                                  | 2025-2026        | \$20,000     | 30%               | CCIC <sup>1</sup>      |
| Investigating the Potential of Consumer-Grade LiDAR in Construction Management                                                                                                        | 2024-2025        | \$20,000     | 40%               | CCIC                   |
| Current State of Construction Field-Related Software Ecosystems                                                                                                                       | 2023-2024        | \$11,304     | 60%               | CCIC                   |
| Data Collection and Analysis for the Sustainable Preservation of Cultural Heritage Sites in Petra, Jordan.                                                                            | 2023-2025        | \$8,000      | 40%               | CADC SEED <sup>2</sup> |
| Demystifying Reality Capture: A Collaborative Workshop Series with Bailey Harris Construction on LiDAR and 360-Degree Photogrammetry for Small to Medium-Sized Contractors in Alabama | 2024-2025        | \$20,000     | 30%               | CCIC                   |
| Reality Capture and BIM for Drywall Installation Planning                                                                                                                             | 2022-2023        | \$16,000     | 40%               | CCIC                   |
| Development of a New Course Entitled 'Reality Capture and Digital Documentation of Built Environment                                                                                  | 2022-2023        | \$24,000     | 30%               | CCIC                   |

<sup>1</sup>CCIC: Center for Construction Innovation and Collaboration.

<sup>2</sup>CADC: College of Architecture, Design and Construction SEED Grant.

## Licenses & Certifications

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- 2024 **Drone Deploy** Certified Pilot,
- 2024 **Procore** BIM Coordinator.
- 2024 College / University Teaching Certificate, Auburn University.
- 2023 **Remote Pilot**, Part 107, Federal Aviation Administration (FAA).
- 2022 **Institutional Review Board (IRB)** & CITI Training in Human Subjects Protection.
- 2022 **OSHA 10-Hour** Construction, Occupational Safety and Health Administration.
- 2020 **Autodesk Revit** Architecture Certified Professional (ACP).
- 2020 **Supervising Engineer** for Construction Projects Certified (JEA).

## Professional Skills

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**Software:** Autodesk Revit, AutoCAD, Navisworks, ReCap, Bluebeam, On-Screen Takeoff, Primavera P6, MS Project, Synchro, FARO Scene, CloudCompare, Lumion, Photoshop, Adobe Premiere. Procore, DroneDeploy, Matterport, Cupix, ProEst, TogaAI, cmBuilder, JobTread.

**Surveying Equipment:** Level, Total Station, LiDAR 3D Scanner TLS, ALS, and Drone UAS.

## Services to the Academic Field and Community:

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- 2023 - 2026 **Peer Reviewer** | The Annual ASC International Conference.
- 2024 - 2025 **Moderator** | The Annual ASC International Conference 2025.
- 2024 - 2025 **Peer Reviewer** | The International Conference on Construction in the 21st Century.
- 2025 **Peer Reviewer** | The CI & CRC Joint Conference.
- 2024 **Peer Reviewer** | CIB World Building Congress.
- 2025 **Peer Reviewer** | Humanities and Social Sciences Communications. *Springer Nature*.
- 2025 **Peer Reviewer** | Scientific Reports. *Springer Nature*.
- 2025 **Peer Reviewer** | Cogent Engineering. *Taylor & Francis*.
- 2024 **Peer Reviewer** | International Journal of Construction Education and Research.
- 2024 **Digital Documentation** for USS Alabama Battleship Memorial Park. *Mobile, AL*
- 2023 -2024 Construction Management Summer Academy for Young Women, *Auburn University*
- 2023 **Design and visualization** Community service for Trinity Lutheran Church. *Auburn, AL*
- 2023 **Disaster Relief and Recovery:** Hurricane Ian, BSCI. *Fort Myers, FL*

## Organizations

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- 2025 American Society of Civil Engineers (ASCE)
- 2025 Sigma Lambda Chi, Iota Chapter.
- 2024 Quantity Surveyors International (QSI)
- 2024 The Southeast Chapter of the Society of Architectural Historians (SESAH)
- 2024 The Construction Management Association of America (CMAA)
- 2020 Jordanian Engineers Association (JEA)

## Other Selected Activities

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- 2024 **ASC Regions 6 & 7** Competition “Integrated Project”. Team Captain.
- 2023 **ASC Regions 6 & 7** Competition “Integrated Project”. Team Captain.
- 2022 **ASC Region 2** Competition “Bid Simulation”. Team Captain.