

VINEETH DHARMAPALAN

Construction Management
College of Architecture &
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California Polytechnic State University
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ACADEMIC BACKGROUND

Ph.D. Civil Engineering, The University of Texas at Austin 2021

Area of specialization: Construction Engineering & Project Management

Advisor: William J. O'Brien

Dissertation: "Supply Chain Visibility (SCV) for Industrial Construction Projects: Assessment of Benefits, Current Status, Definitions, Barriers, and Enablers"

M.S. Statistics, The University of Texas at Austin 2019

Courses

Regression, Design & Analysis of Experiments, Bayesian Statistical Methods, Longitudinal Data Analysis, Data Analysis & Simulation using R, Structural Equation Modeling, Statistical Consulting

M.S. Civil Engineering, Oregon State University 2011

Area of specialization: Construction Engineering &

Management Advisor: John Gambatese

Thesis: "Risk factor quantification of design elements for multistory commercial office buildings"

B.E. Civil Engineering, University of Mumbai 2006

Area of specialization: Solid Waste Management

Project: "Design and Study of Rigid Pavement and Box Culvert"

WORK EXPERIENCE

Assistant Professor, Cal Poly August 2022 – Present

Construction Management

Courses: Fundamentals of Construction Management; Construction Management & Project Planning

Postdoc Scholar, Cal Poly January 2022 – July 2022

Civil and Environmental Engineering

Courses: Senior Design Projects; Programming Applications in Engineering; Advanced Building Information Modeling for Civil Engineering

Graduate Teaching Assistant, UT Austin Aug. 2021 – Dec. 2021

Department of Statistics & Data Sciences

Course: Biostatistics

- Support instruction of weekly classes for 95+ students
- Lead weekly lab sessions that focuses on teaching statistical programming language R
- Proctor and grade quizzes, exams, and final project assignments

Graduate Teaching Assistant, UT Austin

June 2021 – August 2021

Department of Physics

Course: Engineering Physics - Electromagnetism and Optics

- Led weekly online labs for 20 students to teach practical understanding of experimental physics
- Attended lab sessions led by Instructor
- Reviewed and provided feedback on student assignments and lab reports

Graduate Teaching Assistant, UT Austin

Jan. 2021 – May 2021

Department of Civil, Architectural, & Environmental Engineering

Course: Engineering Professionalism

- Supported instruction of weekly online classes for 70+ students
- Coordinated community projects with industry representatives from Austin's ASCE chapter
- Mentored student groups working on and learning from the projects
- Graded reflective essays, presentations, and written project reports

Graduate Teaching Assistant, UT Austin

Aug. 2020 – Dec. 2020

Department of Statistics & Data Sciences

Course: Statistical Modeling for Behavioral and Health Sciences

- Supported instruction of weekly online classes for 90+ students
- Developed interactive components, including clicker questions and think-pair-share
- Provided feedback on student assignments and exams

Graduate Teaching Assistant, UT Austin

Jan. 2020 – May 2020

Department of Physics

Course: Engineering Physics - Mechanics

- Led weekly labs for 60+ students to teach practical understanding of engineering physics
- Attended lab sessions led by Instructor and head teaching assistant
- Reviewed and provided feedback on student assignments and lab reports

Graduate Teaching Assistant, UT Austin

Aug. 2019 – Dec. 2019

Department of Philosophy

Course: Ideas of the 20th Century

- Led weekly discussions for 55+ students to assist students with course topics
- Attended lectures, supported faculty in conducting classes
- Reviewed and provided feedback on student assignments and papers

Project Controls Engineer, Project Baseline Consultants

Jan. 2014 – May 2015

- Planning, cost control, and risk management of a \$64 million capital project

Project Coordinator, CB Richard Ellis

Jan. 2012 – Sept. 2013

- Resource management, budgeting, contracts, and delivery of three capital projects (total value \$32million) of US-based clients in two different sectors

Graduate Teaching Assistant, Oregon State University

Sept. 2008 – June 2011

School of Civil and Construction Engineering

Courses: Building Construction Management; Contracts and Specifications; Mechanical Systems in Construction; Electrical Systems in Construction; Project Management for Construction; Construction Estimation; Construction Planning & Scheduling

Trainee Engineer, Hub town Ltd.

Dec. 2007 – June 2008

- Cost control, contracts, quality control, and coordination for a \$10 million capital project that positively impacted the lives of 10000+ slum dwellers

Site Engineer, Classicon Projects Pvt. Ltd.

July 2006 – Dec. 2007

- Resource management and supervision of civil interior contracts of offices within the terminal-2 building of Mumbai's airport; the construction of the terminal improved the efficiency of domestic flight operations across the country

AREAS OF RESEARCH EXPERTISE AND INTERESTS

- Production Systems, project supply chain management
- Information Management, technology use, information integration, implementation issues
- Risk Management, construction risk
- Data Analytics, methods for automated progress monitoring and data-driven decision-making
- Construction Worker Safety and Health, Prevention through Design
- Education, transforming STEM education for workforce development

RESEARCH EXPERIENCE

Construction Industry Institute, Austin, TX

July 2016 – July 2019

Graduate Research Assistant

- Collaborated with an industrial team (18 representatives) to improve supply chain decision making for construction projects in the industrial sector; the team examined inefficiencies and quantified the requisite information flows that support decisions in the supply chain of materials at the strategic and tactical level
- Served as a consultant on a longitudinal study that investigated the implementation process of Advanced Work Packaging (AWP) technique during construction of petrochemical projects in Houston, TX; the study identified gaps and recommended opportunities for improving projects' alignment with AWP

This work resulted in two technical reports for the Construction Industry Institute (CII), and presentations at CII's annual conference in 2018 and 2019

Fiatech, Austin, TX

Aug. 2015 – July 2016

Graduate Research Assistant

- Initiated collaboration with solution providers who implement auto-identification and tracking technologies on projects belonging to the industrial sector
- Conducted case study investigation to examine the drivers, benefits, and challenges of novel technology implementation process on seven projects

This work resulted in a technical report for Fiatech and one first-author publication in ICE's Journal of Smart Infrastructure and Construction

Oregon State University, Corvallis, OR

Aug. 2009 – May 2011

Graduate Research Assistant

- Quantified the construction risk of common design elements and construction activities of atypical commercial building
- Developed a tool (<http://www.constructionsliderule.org>) that can be used to assess the construction risks of projects and also to compare risk associated with different design alternatives

This work resulted in a thesis, a paper in ASCE's Construction Research Conference, and a first author publication in ASCE's Journal of Construction Engineering and Management

Kiewit Center for Infrastructure and Transportation Sustainability Project July 2009
Graduate Research Assistant

- Documented construction processes and materials used for commercial buildings and roadways in the United States of America (USA); Also, verified the list by monitoring live construction projects
- Assessed the sustainability of the projects using Athena Eco-calculator and PaLATE

This work resulted in a technical report for the Kiewit Center for Infrastructure and Transportation

RESEARCH GRANTS AND PROJECTS

Funded

Funding Agency	PI (and Co-PIs)	Title	Total Budget
Construction Industry Institute	PI: Gambatese, J. Co-PIs: Nnaji, C.; Dharmapalan, V.	Statement of Qualifications and Interest for “A Refresh of CII’s Zero Accident Techniques (ZAT)”	\$260,000
CAED Teacher and Student Scholar Grants	PI: Dharmapalan, V. Co-PI: V.;Kolegraff, S.	Identification and Assessment of Musculoskeletal Disorders (MSDs) Risk during the construction of a wooden shed by construction management students: A Pilot Study to Improve Safety Culture in Undergraduate Curriculum	\$20,000

Submitted

Funding Agency	PI (and Co-PIs)	Title	Total Budget
Construction Industry Institute	PI: Woo, J. Co-PI: Dharmapalan, V.	Statement of Qualifications and Interest for “Guidelines for a Supplier Qualification Program to Improve Project Performance”	\$260,000
Associated General Contractors of America	PI: Woo, J. Co-PIs: Dharmapalan, V.; Cho, J.	Innovative Techniques for Construction Quality Management	\$9,000

PEDAGOGICAL TRAINING & MENTORSHIP

- Advancing Inclusive Mentoring Program July 14, 2023
- Associated Schools of Construction Estimating Bootcamp June, 2023
- Autodesk Workshop, Cal Poly Dec. 2022
- Roofing Alliance Faculty Retreat on Roofing, ASU Oct. 9-12, 2022
- Nuts & Bolts of Faculty Advising Training Workshop, Cal Poly Sept. 30, 2022
- Undergraduate Research Supervision, UT Austin Aug. 2020 – Dec. 2021
- Advanced Teaching Preparation Certificate, UT Austin 2020

PUBLICATIONS

Peer-Reviewed Journal Papers Published/Accepted

- **Dharmapalan V.**, O'Brien W.J., Morrice D. (2022) "Defining and Assessing Visibility Enablers in the Industrial Construction Supply Chain." *Journal of Management in Engineering*, ASCE, 38(4), 04022024 (13), [https://doi.org/10.1061/\(ASCE\)ME.1943-5479.0001047](https://doi.org/10.1061/(ASCE)ME.1943-5479.0001047).
- **Dharmapalan V.**, O'Brien W.J., Morrice D. (2021) "Defining Supply Chain Visibility for Industrial Construction." *Doctoral Research in Construction Management*, *Frontiers in Built Environment*, 7, 1-16, <https://doi.org/10.3389/fbuil.2021.651294>.
- **Dharmapalan V.**, O'Brien W.J., Morrice D., Jung M. (2021) "Assessment of Visibility in Industrial Construction Projects: A Viewpoint from Supply Chain Stakeholders." *Construction Innovation*, *Emerald Insight*, <https://doi.org/10.1108/CI-07-2020-0114>.
- Jin, Z., Gambatese, J., Liu, D., **Dharmapalan, V.** (2019). "Using 4D BIM to Assess Construction Risks during the Design Phase." *Engineering, Construction and Architectural Management*, *Emerald Insight*, 26(11), 2627-2654, <http://doi.org/10.1108/ECAM-09-2018-0379>.
- **Dharmapalan V** and O'Brien WJ (2018) Benefits and challenges of automated materials technology in industrial construction projects. *Smart Infrastructure and Construction*, ICE, 171(4): 144–157, <https://doi.org/10.1680/jsmic.19.00009>.
- **Dharmapalan, V.**, Gambatese, J.A., Fradella, J., Vahed, A.M. (2014) "Quantification and Assessment of Safety Risk in the Design of Multistory Buildings." *Journal of Construction Engineering and Management*, ASCE, 141(4), 04014090 (9).

Peer-Reviewed Journal Papers in preparation/Under review

- **Dharmapalan V.**, O'Brien W.J., Morrice D., Jung M. (2023) "Barriers to Visibility in the Supply Chain of Industrial Construction Projects." (Manuscript submitted and under review in *Emerald Insight – Construction Innovation*).
- **Dharmapalan V.**, O'Brien W.J., Morrice D. (2023) "Benefits of Visibility in the Supply Chain of Industrial Construction Projects." (To be submitted to *Emerald Insight – Engineering, Construction and Architectural Management*).

Peer-Reviewed Conference Proceedings

- Vanderweyen, L., **Dharmapalan, V.**, Kolegraff, S., Osman, K. (2024). "Diversity, Equity, and Inclusion in the Architecture, Engineering, and Construction Industry: A Subject Review", *Proceedings of the ASCE Construction Research Congress 2024*, Ames, Iowa (Manuscript submitted and under review).
- Ahmed, S., **Dharmapalan, V.**, Jin, Z. (2024) "A Subject Review on the Use of Mass Timber in the US Construction Industry", *Proceedings of the ASCE Construction Research Congress 2024*, Ames, Iowa (Manuscript submitted and under review).
- Sharma, V., Gajjar, D., Garg, S., Smithwick, J., **Dharmapalan, V.** (2023). Ponding and Blisters – Study of SPF Roofs. *Associated Schools of Construction International Proceedings of the 59th Annual Conference*.
- Jin, Z., Gambatese, J., **Dharmapalan, V.** (2018) "Risk Assessment in 4D Building Information Modeling for Multistory Buildings" *Proceedings of the Joint CIB W099 and TG59 Conference*, Salvador, Brazil, August 1-3, 2018.
- **Dharmapalan, V.** and Gambatese, J.A. (2012) "Comparison of Design Risk Factors of Multistory Commercial Office Buildings." *Proceedings of the ASCE Construction Research Congress 2012*, West Lafayette, IN, May 21-23, 2012.

BOOK CHAPTERS AND TECHNICAL REPORTS

- O'Brien W.J., Morrice D., **Dharmapalan V.**, (2020) "Improved Integration of the Supply Chain in Materials Planning and Work Packaging – Part 2: Inventory Costs and Opportunities." Research Report, Construction Industry Institute, Austin, Texas.
- O'Brien W.J., **Dharmapalan V.** (2018) "Fiatech: History and Perspectives on Future Research." In: Smith I., Domer B. (eds) Advanced Computing Strategies for Engineering. EG-ICE 2018. Lecture Notes in Computer Science, vol 10863. Springer, Cham.
- O'Brien W.J., Morrice D., **Dharmapalan V.**, (2018) "Improved Integration of the Supply Chain in Materials Planning and Work Packaging – Part 1: Visibility." Research Report, Construction Industry Institute, Austin, Texas.
- O'Brien W.J., Young S., **Dharmapalan V.**, (2017). "IMM: Automated Materials Identification, Locating and Tracking Technology – Case Studies." Research Report, Fiatech, Austin, Texas.
- **Dharmapalan, V.**, Gambatese, J. (2010) "Construction Processes and Materials Mapping for Sustainability Assessments" Kiewit Center for Infrastructure and Transportation Sustainability Project, Corvallis, Oregon.

TECHNICAL SKILLS

Software: PrimaveraP6, Bluebeam, SPSS, SAS, Tableau, MS Office suite, Revit, AutoCAD

Languages: R, Python

CO-CURRICULARS AND VOLUNTEERING

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|---|-------------------------|
| ▪ Member, Diversity, Equity, and Inclusion Committee | Fall 2022 – Present |
| ▪ Member, Mentorship Committee | Fall 2022 – Present |
| ▪ Moderator, National Academy of Construction | Spring 2023 |
| ▪ Coach, NRCA Roofing Alliance Student Competition | Winter 2023 |
| ▪ Chair, UT Apartment's Tenant Advisory Board, | Spring 2021 – Fall 2021 |
| ▪ Program Coordinator, UT Apartment's Tenant Advisory Board, | Fall 2018 – Fall 2020 |
| ▪ Senator, UT's Senate of College Councils, | Fall 2018 – Spring 2020 |
| ▪ Project Management Professional, Project Management Institute | Feb. 2014 – Present |

PROFESSIONAL AND SOCIETY MEMBERSHIPS

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| ▪ Member , American Society of Civil Engineers (ASCE) | Spring 2018 – Present |
| ▪ Member , American Society for Engineering Education (ASEE) | Spring 2023 – Present |

AWARDS AND HONORS

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| ▪ Tucker Hudson Kumar Endowed Presidential Fellowship | Fall 2020 & 2015 |
| ▪ Boston Consulting Group (BCG) summer program finalist | Summer 2019 |
| ▪ State Bar of Texas Construction Law Section Fellowship | Fall 2016 |

PROFESSIONAL SERVICE

- **Manuscript Reviewer**, American Society of Civil Engineers (ASCE), *Journal of Construction Engineering and Management*
- **Manuscript Reviewer**, American Society of Civil Engineers (ASCE), *Journal of Computing in Civil Engineering*
- **Manuscript Reviewer**, Elsevier, *Advanced Engineering Informatics*
- **Manuscript Reviewer**, Emerald, *Construction Innovation*
- **Manuscript Reviewer**, Emerald, *Engineering, Construction and Architectural Management*

- **Manuscript Reviewer**, Emerald, *Engineering, Construction and Architectural Management*
- **Manuscript Reviewer**, MPDI, *Buildings*