

Viet Le

Ph.D. Candidate, Northeastern University

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EDUCATION

Northeastern University (NU)

Boston, MA

Ph.D. Candidate (Structural Engineering) - GPA: 3.72

Sept. 2016 – Present (Expected graduation May 2020)

University of Massachusetts Lowell (UML)

Lowell, MA

M.S. in Civil and Environmental Engineering (Structural Engineering) - GPA: 4.00

Sept. 2015 – May 2016

B.S. in Civil and Environmental Engineering - GPA: 3.98

Sept. 2011 – May 2015

PROFESSIONAL AND RESEARCH EXPERIENCE

Northeastern University

Boston, MA

Structural Engineering Graduate Research Assistant

Sept. 2016 - Present

- Developing a performance-based engineering framework for the risk and life-cycle cost assessment of vertical structures subjected to non-stationary wind loads from thunderstorm downbursts and tornadoes
- Conducting wind tunnel experiments to physically simulate non-stationary wind outflows and their effects on a tall building model using a high frequency force balance
- Applying data science techniques to approximate structural responses and fragilities

Structural Engineering Graduate Teaching Assistant

Sept. 2017 - May 2019

- Provided assistance for Steel Design and for Materials and Measurements courses. Graded homework and lab reports, led lectures and labs, and held office hours for students

GCP Applied Technologies

Cambridge, MA

Research Intern

Jun. 2016 - Aug. 2016

- Performed image analysis and data clustering techniques for the improvement of quality control for concrete mixes

University of Massachusetts Lowell

Lowell, MA

Structural Engineering Research Assistant

May 2013 - May 2016

- Involved in the multiphysical nondestructive evaluation of cementitious composites using microwave imaging radar, ultrasonic testing, dielectric measurements with a contact probe, and an unmanned aerial vehicle

SOFTWARE SKILLS

- **Proficient/Working Knowledge:** MATLAB, Microsoft Office, Python, LaTeX
- **Basic Knowledge:** ANSYS Fluent, OpenFOAM, AutoCAD, C++, LabView

AWARDS AND HONORS

- **NU** - College of Engineering Ph.D. Bridge Funding Fellowship *Mar. 2019*
- **NU** - College of Engineering Dean's Fellowship *May 2016*
- **American Concrete Institute** - Kumar Mehta Scholarship *May 2016*
- **UML** - Deans Gold Medal - Highest Achievement (Graduate College of Engineering) *May 2016*
- **U.S. Department of Energy** - Integrated University Program Fellowship *May 2015*

COMMUNITY OUTREACH

Northeastern University Graduate Structural Engineering Association

Boston, MA

Chair

Sept. 2018 - Sept. 2019

- Organized student and professional seminars for graduate structural engineering students
- Arranged "Documentary Nights" centered on the role and ethical responsibilities of civil engineers in society

1st Northeastern University - Tongji University Workshop on Wind Engineering

Boston, MA

Co-Chair

May 2019

- Co-led a student organized workshop to discuss the latest developments in wind engineering research made by academics from Northeastern University and Tongji University

Peer-Reviewed Journal Publications

First Author

- Le, V.; Caracoglia, L. (2020). “Experimental investigation of non-stationary wind loading effects generated with a multi-blade flow device” *Journal of Fluids and Structures*. (In preparation).
- Le, V.; Caracoglia, L. (2020). “A neural network surrogate model for the performance assessment of a vertical structure subjected to non-stationary, tornadic wind loads.” *Computers & Structures*. (Revised and Resubmitted).
- Le, V.; Caracoglia, L. (2020). “Life-cycle cost analysis of a point-like structure subjected to tornadic wind loads.” *ASCE Journal of Structural Engineering*. 146 (2): 04019194.
- Le, V.; Caracoglia, L. (2019). “Generation and characterization of a non-stationary flow field in a small-scale wind tunnel using a multi-blade flow device.” *Journal of Wind Engineering and Industrial Aerodynamics*. 186: 1-16.
- Le, V.; Caracoglia, L. (2018). “Computationally efficient stochastic approach for the fragility analysis of vertical structures subjected to thunderstorm downburst winds.” *Engineering Structures*. 165: 152-169.

Co-Author

- Yu, T.; Twumasi, J.O.; Le, V.; Tang, Q.; D’Amico, N. (2017). “Surface and subsurface remote sensing of concrete structures using synthetic aperture radar imaging.” *ASCE Journal of Structural Engineering*. 143 (10): 04017143.

Conference Papers and Presentations

First Author

- Le, V.; Caracoglia, L. (2020). “Investigating failure probability of a point-like, monopole structure subjected to tornado winds.” Submitted to: *9th International Colloquium on Bluff Body Aerodynamics and Applications (BBAAIX)*, July 20-23, 2020, University of Birmingham, Birmingham, United Kingdom.
- Le, V.; Caracoglia, L. (2019). “Performance-based design of vertical structures impacted by thunderstorm downburst and tornado wind loads by wavelet-Galerkin approach.” Presented at: *1st Northeastern University - Tongji University Workshop on Wind Engineering (NU-TJU WWE1)*, May 23, 2019, Northeastern University, Boston, MA, USA.
- Le, V.; Caracoglia, L. (2018). “Performance-based assessment of tall buildings subjected to thunderstorm downburst loads using the Wavelet-Galerkin approach.” Presented at: *Engineering Mechanics Institute (EMI) Conference 2018*, Massachusetts Institute of Technology, Cambridge, MA, USA.
- Le, V.; Caracoglia, L. (2017). “A preliminary examination of structural fragility for a vertical cantilever structure subjected to thunderstorm downburst loading.” Full paper presented and found in: *Proceedings of the 13th Americas Conference on Wind Engineering (ACWE13)*, University of Florida, Gainesville, Florida, USA.
- Le, V.; Yu, T.; Twumasi, J.O.; Tang, Q. (2016). “Sizing and ranging criteria for SAR images of steel and wood specimens.” Full paper presented and found in: *2016 SPIE Proceedings Vol. 9804: Nondestructive Characterization and Monitoring of Advanced Materials, Aerospace, and Civil Infrastructure*, Las Vegas, Nevada, USA.
- Le, V.; Yu, T. (2015). “Mass and stiffness estimation using mobile devices for structural health monitoring.” Full paper presented and found in: *2015 SPIE Proceedings Vol. 9437: Nondestructive Characterization and Monitoring of Advanced Materials, Aerospace, and Civil Infrastructure*, San Diego, California, USA.

Thesis/Dissertation

- Le, V. “Detecting and quantification of damage from ASR gels using multiphysical nondestructive evaluation.” M.S. Thesis, University of Massachusetts Lowell, 2016 (155 pages).
- Le, V. “Performance-based engineering framework for vertical structures subjected to non-stationary wind loads.” Ph.D. Dissertation, Northeastern University, 2020 (*In progress*).