Joe Smith

Curriculum Vitae

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Professional Academic Experience

2018 - present **Assistant Professor**, Department of Mechanical Engineering, University of a City in a State.

Education

2009 - 2014 **B.S.**, Engineering, University of a City in a State.

Journal Articles

[5] Austin Downey, Jonathan Hong, Jacob Dodson, Michael Carroll, and James Scheppegrell. Millisecond model updating for structures experiencing unmodeled high-rate dynamic events. *Mechanical Systems and Signal Processing*, 138:106551, April 2020. doi:10.1016/j.ymssp.2019.106551

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[3] Austin Downey, Connor Theisen, Heather Murphy, Nicholas Anastasi, and Simon Laflamme. Cam-based passive variable friction device for structural control. *Engineering Structures*, 188:430–439, jun 2019. doi:10.1016/j.engstruct.2019.03.032

[2] Austin R. J. Downey, Jin Yan, Eric M. Zellner, Karl H. Kraus, Iris V. Rivero, and Simon Laflamme. Use of flexible sensor to characterize biomechanics of canine skin. *BMC Veterinary Research*, 15(1):40, jan 2019. doi:10.1186/s12917-018-1755-y

[1] Austin Downey, Yu-Hui Lui, Chao Hu, Simon Laflamme, and Shan Hu. Physics-based prognostics of lithium-ion battery using non-linear least squares with dynamic bounds. *Reliability Engineering & System Safety*, 182:1–12, feb 2019. doi:10.1016/j.ress.2018.09.018

Conference Proceedings

[9] Austin Downey, Jonathan Hong, Bryan Joyce, Jacob Dodson, Chao Hu, and Simon Laflamme. Methodology for real-time state estimation at unobserved locations for structures experiencing high-rate dynamics. In Fu-Kuo Chang and Fotis Kopsaftopoulos, editors, *Structural Health Monitoring 2019*, pages 3375–3381. DEStech Publications, Inc., nov 2019. doi:10.12783/shm2019/32498

[8] Austin Downey, Anna Laura Pisello, Elena Fortunati, Claudia Fabiani, Francesca Luzi, Luigi Torre, Filippo Ubertini, and Simon Laflamme. Durability assessment of soft elastomeric capacitor skin for SHM of wind turbine blades. In Peter J. Shull, editor, *Nondestructive Characterization and Monitoring of Advanced Materials, Aerospace, Civil Infrastructure, and Transportation XII*, volume 10599, pages 10599–11. SPIE, mar 2018. doi:10.1117/12.2296518

[7] Austin Downey, Antonella D'Alessandro, Filippo Ubertini, and Simon Laflamme. Crack detection in rc structural components using a collaborative data fusion approach based on smart concrete and large-area sensors. In Hoon Sohn, editor, *Sensors and Smart Structures Technologies for Civil, Mechanical, and Aerospace Systems 2018*, volume 10598, pages 10598–13. SPIE, mar 2018. doi:10.1117/12.2296695

[6] Austin Downey, Jin Yan, Simon Laflamme, and An Chen. Dynamic reconstruction of in-plane strain maps using a two-dimensional sensing skin. In *Structural Health Monitoring 2017*. DEStech Publications, Inc., sep 2017. doi:10.12783/shm2017/14019

[5] Austin Downey, Enrique Garcia-Macias, Antonella D'Alessandro, Simon Laflamme, Rafael Castro-Triguero, and Filippo Ubertini. Continuous and embedded solutions for shm of concrete structures using changing electrical potential in self-sensing cement-based composites, apr 2017. doi:10.1117/12.2261427

[4] Austin Downey, Simon Laflamme, Filippo Ubertini, and Partha Sarkar. Experimental damage detection of wind turbine blade using thin film sensor array, apr 2017. doi:10.1117/12.2261531

[3] Austin Downey, Antonella D'Alessandro, Micah Baquera, García-Macías, Daniel Rolfes, Filippo Ubertini, Simon Laflamme, and Rafael Castro-Triguero. Damage detection, localization and quantification in conductive smart concrete structures using a resistor mesh model. *Engineering Structures*, 148:924 – 935, 2017. doi:10.1016/j.engstruct.2017.07.022

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Open Source Hardware

[1] Malichi Flemming and Austin Downey. Smart penetrometer with edge computing. GitHub, April 2022. URL: https://github.com/ARTS-Laboratory/Smart-Penetrometer-with-Edge-Computing

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