

Katy Ilonka Gero

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<http://katygero.com>

EDUCATION

Columbia University

Ph.D. Candidate in Computer Science, 2017 - current

Massachusetts Institute of Technology

B.S. in Engineering (recommended by the Mechanical Engineering Department), 2009 - 2013

GPA: 4.9/5.0

ABOUT

I am interested in affective and meaningful models of language. I am currently a first year Ph.D. student in the Department of Computer Science at Columbia University, working with Prof. Lydia Chilton. My current research is focused on computational models of extended metaphor and how this can provide structure for generated text in the domains of explanation, persuasion, and poetry.

PAPERS AND PRESENTATIONS

- ▶ Reinhart, C. F., Dhariwal, J., **Gero, K. I.** (2017, Nov). Biometeorological indices explain outside dwelling patterns based on Wi-Fi data in support of sustainable urban planning, *In Building and Environment, Volume 126, 2017, Pages 422-430, ISSN 0360-1323*, <https://doi.org/10.1016/j.buildenv.2017.10.026>.
- ▶ Cheng, N. G., Lobovsky, M. B., Keating, S. J., Setapen, A. M., **Gero, K. I.**, Hosoi, A. E., & Iagnemma, K. D. (2012, May). Design and analysis of a robust, low-cost, highly articulated manipulator enabled by jamming of granular media. *In 2012 IEEE International Conference on Robotics and Automation (ICRA)*, pp. 4328-433, IEEE.
- ▶ **Gero, K. I.** (2012, Feb). Experimental analysis on granular materials for robotic applications. *Presented at American Physical Society Meeting*

AWARDS

- ▶ NSF Graduate Research Fellowship, 2017
- ▶ Carl G. Sontheimer Prize for Excellence in Innovation and Creativity, *MIT Department of Mechanical Engineering*, May 2013
- ▶ John Hildebiddle Poetry Prize, *MIT School of Humanities, Arts, & Social Sciences*, May 2013
- ▶ Second Prize in Boit Manuscript Prize, Category: Poetry, *MIT Ilona Karmel Writing Prizes*, May 2013
- ▶ First Prize in Vera List Prize for Visual Arts, *MIT Ilona Karmel Writing Prizes*, May 2013
- ▶ Service and Engineering Fellowship, *Tau Beta Pi at MIT*, May 2012
- ▶ Arts Grant Recipient, *Council of the Arts at MIT*, 2012 (for Synaesthetic Arboretum) and 2013 (for Radiant Acrylic).

EXPERIENCE

Soofa, Inc

Research and Development Lead, March 2016 - August 2017

- ▶ Created prototype of pedestrian scanning sensor, included chip selection, writing custom firmware in C, and making necessary changes to our data stack (work in Ruby on Rails and the Elastic Search and Cassandra database engines).
- ▶ Ran research project with the Sustainable Design Lab at MIT on validating outdoor thermal comfort, resulting in publication.
- ▶ Develop analysis and graphics (including data cleaning and aggregation) presented to parks and recreation clients in monthly reports.

Rest Devices

Product Developer, August 2013 - March 2016

- ▶ Improved algorithms for detecting infant sleep monitor modes through in-house testing and tuning thresholds.
- ▶ Designed and implemented algorithms for infant sleep cycling based on respiration data and prototyped a sleep training application based on analysis of sleep cycles.
- ▶ Developed internal tools for identifying system-wide connectivity bugs.

MIT Hatsopoulos Microfluids Lab

Research Assistant, June 2011 - May 2012

- ▶ Designed and ran experiments on stiffness exhibited in granular materials exposed to a vacuum.
- ▶ Contributed to an IEEE paper based on using the technique of exposing granular matter to a vacuum to create a robotic manipulator.
- ▶ Wrote a paper that featured my work on strength properties and shape parameters of granular materials (never sent out for review).
- ▶ Contributed to a novel robotic actuator construction by proposing the use of exoskeletal springs as a returning force.

OTHER INTERESTS

Creative Writing

- ▶ Poems for MIT Students, poetry competition and chapbook. *Director.*
- ▶ Around the World, travel essay anthology. *Contributing essayist.*
- ▶ Wedged, politics and social science book. *Copyeditor.*
- ▶ Spare Change News, newspaper. *Contributing poet.*
- ▶ Blueshift Journal, literary journal. *Contributing poet.*

Visual Arts

- ▶ Float Flotation Therapy Artists Program 2016. *Participant.*
- ▶ MIT Portraiteurs. *Founding member.*