

RESEARCH	Deep Learning, Convolutional Neural Networks, Human Dynamics and Behavior, Product
INTERESTS	Design, Computer Vision, Automated Content Generation.

**Swarthmore College**, Swarthmore, PA  
B.A., **Psychology** June 2007

REFEREED  
PUBLICATIONS

1. **Dering, M. L.** and Tucker, C. S. “Implications of Generative Models in Governance” *AAAI Fall Symposium*, 2017.

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PUBLICATIONS

1. **Dering, M. L.** and Tucker, C. S. “Implications of Generative Models in Government” *AAAI Fall Symposium*, 2017.
2. **Dering, M. L.**, Tucker, C. S., and Kumara, S. “An Unsupervised Machine Learning Approach To Assessing Designer Performance During Physical Prototyping” *Journal of Computing and Information Science in Engineering*, 2017.

3. **Dering, M. L.** and Tucker, C. S. “A Convolutional Neural Network Model for Predicting a Products Function, Given Its Form” *Journal of Mechanical Design: Data Driven Design*, 2017.
  4. **Dering, M. L.** and Tucker, C. S. “Early Predicting of Student Struggles Using Body Language” *ASEE Annual Conference & Exposition*, 2017.
  5. Bodnar, T., **Dering, M. L.**, Tucker, C., and Hopkinson, K. M. “Using Large-Scale Social Media Networks as a Scalable Sensing System for Modeling Real-Time Energy Utilization Patterns.” *IEEE Transactions on Systems, Man, and Cybernetics: Systems.*, PP (99):1–14, 2016.
  6. Octeau, D., Jha, S., **Dering, M.**, McDaniel, P., Bartel, A., Li, L., Klein, J. and Le Traon, Y. “Combining static analysis with probabilistic models to enable market-scale android inter-component analysis.” *ACM SIGPLAN Notices* 51(1):469–484, 2016.
  7. **Dering, M. L.**, and Tucker, C. S. (2015, August). “A Computer Vision Approach for Automatically Mining and Classifying End of Life Products and Components.” *2015 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference* V004T05A007–V004T05A007.
  8. Octeau, D., Luchaup, D., **Dering, M.**, Jha, S., and McDaniel, P. “Composite constant propagation: Application to android inter-component communication analysis.” *Proceedings of the 37th International Conference on Software Engineering* 1:77–88, 2015.
  9. **Dering, M. L.**, and McDaniel, P. “Android market reconstruction and analysis.” *Military Communications Conference (MILCOM)*, 2014:300–305.
- SUBMITTED  
CONFERENCE  
PUBLICATIONS
1. **Dering, M. L.** and Tucker, C. S. “Generative Adversarial Networks for Increasing the Veracity of Big Data” *IEEE International Conference on Big Data*, 2017.
- PAPERS IN  
PREPARATION
1. **Dering, M. L.** and Tucker, C. S. “Dis-Kinect-ed: Using Deep Learning for Simultaneous Pose and Depth Estimation”.

#### AWARDS

##### Grant Awards

- NVIDIA K40 Hardware Grant, June 2016

#### TEACHING EXPERIENCE

##### Teaching Assistant

Fall 2014–Spring 2015

CMPSC 201 - Introduction to Programming for Engineers

Instructor: Martin Yeh, Ph.D

Computer Science and Engineering,

Penn State University

#### REVIEWER

*IEEE Systems, Man, And Cybernetics: Systems*

#### HARDWARE AND SOFTWARE SKILLS

##### Programming Languages:

- Python, C, C++, Java, Ruby, SQL, MySQL, MATLAB, and others

##### Software:

- Scikit-learn, Tensorflow, Theano, (Py)Torch, Matplotlib, Opencv, PCL, Boost, D3 and many others

##### Skills:

- Data Science, Robotics, Image Processing, Artificial Intelligence, Text Analysis, Visualization, Time Series Analysis.