

## Experience

- 2018– **Research Scientist, Google, Google AI, New York City.**
- 2017 **Research Intern, Facebook, AI Research, New York City.**  
Developed algorithm to train deep neural networks on datasets with ambiguous class labels such as hashtags.
- 2016 **Research Intern, Google, Machine Perception, Mountain View.**  
Developed semi-supervised learning algorithm for image classification from noisy large-scale datasets with minimal supervision. Several key contributions to the Open Images Dataset.

## Education

- 2014–2018 **Cornell University, PhD Computer Science.**
- Focus Area: Deep Learning, Computer Vision, Machine Learning
  - Advisor: Serge Belongie
- 2007–2013 **Karlsruhe Institute of Technology, BS and MS Information Engineering and Management.**
- Focus Area: Artificial Intelligence, Computational Economics, Smart Energy Systems
  - Visiting Scholar at **Carnegie Mellon University** in Robotics Institute (Fall 2012 – Spring 2013) with scholarships from InterACT and the Baden-Württemberg Foundation
  - Exchange Student at **University of Connecticut** (Fall 2010 – Spring 2011) with scholarship from the State of Baden Württemberg
  - Exchange Student at **Royal Institute of Technology**, Sweden (Fall 2009)

## Selected Publications

- [1] **A. Veit**, S. Belongie “*Convolutional Networks with Adaptive Inference Graphs.*”. European Conference on Computer Vision (ECCV 2018) (Oral)
- [2] **A. Veit**, M. Nickel, S. Belongie, Lvd. Maaten “*Separating Self-expression and Visual Content in Hashtag Supervision.*”. Computer Vision and Pattern Recognition (CVPR 2018)
- [3] Y. Cui, G. Yang, **A. Veit**, X. Huang, S. Belongie “*Learning to Evaluate Image Captioning.*”. Computer Vision and Pattern Recognition (CVPR 2018)
- [4] R. Vaish, SNS. Gaikwad, G. Kovacs, **A. Veit**, R. Krishna, IA. Ibarra, C. Simoiu, M. Wilber, S. Belongie, S. Goel, J. Davis, MS. Bernstein “*Crowd Research: Open and Scalable University Laboratories.*”. ACM Symposium on User Interface Software and Technology (UIST 2017) (Best Paper Honorable Mention)
- [5] **A. Veit**, S. Belongie, T. Karaletsos “*Conditional Similarity Networks.*”. Computer Vision and Pattern Recognition (CVPR 2017)
- [6] **A. Veit**, N. Alldrin, G. Chechik, I. Krasin, A. Gupta, S. Belongie, “*Learning From Noisy Large-Scale Datasets With Minimal Supervision.*”. Computer Vision and Pattern Recognition (CVPR 2017)
- [7] **A. Veit**, M. Wilber, S. Belongie, “*Residual Networks Behave Like Ensembles of Relatively Shallow Networks.*”. Neural Information Processing Systems (NIPS 2016)
- [8] Altwaijry, **A. Veit**, S. Belongie, “*Learning to Detect and Match Keypoints with Deep Architectures.*”. British Machine Vision Conference (BMVC 2016)
- [9] **A. Veit**, T. Matera, L. Neumann, J. Matas, S. Belongie, “*COCO-Text: Dataset and Benchmark for Text Detection and Recognition in Natural Images.*”. Scene Understanding Workshop at CVPR 2016
- [10] **A. Veit\***, B. Kovacs\*, S. Bell, J. McAuley, K. Bala, S. Belongie, “*Learning Visual Clothing Style with Heterogeneous Dyadic Co-occurrences.*”. International Conf. on Computer Vision (ICCV 2015)
- [11] **A. Veit**, Y. Xu, R. Zheng, N. Chakraborty, K. Sycara, “*Demand Side Energy Management via Multiagent Coordination in Consumer Cooperatives*” Journal of Artificial Intelligence Research (JAIR) 50(1), 2014.
- [12] **A. Veit**, C. Goebel, R. Tidke, C. Doblander, H-A Jacobsen, “*Household Electricity Demand Forecasting: Benchmarking State-of-the-Art Methods.*” Internat. Conf. on Future Energy Systems, (e-Energy 2014)

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## Selected Research Projects

### Convolutional Networks with Adaptive Inference Graphs.

with Serge Belongie

- Designed and developed convolutional networks that can define their network topology on the fly as necessary for the specific input. (**ECCV 2018**)

### Conditional Similarity Networks.

with Serge Belongie, Theofanis Karaletsos

- Designed and developed a neural network that can learn disentangled image representations. This can be used to find images that are similar according to specific aspects, e.g., similar style or content. (**CVPR 2017**)

### Study on Properties of Residual Network.

with Michael Wilber, Serge Belongie

- Performed lesion study on network resilience and analysis of gradient flow for residual networks. Proposed new interpretation that short paths for gradients are key for training very deep networks. (**NIPS 2016**)

### COCO Text: A Large-Scale Dataset for Text in Natural Images.

with Tomas Matera, Lukas Neumann, Jiri Matas, Serge Belongie

- Collected large-scale dataset with a combined crowd-machine annotation pipeline. This is the first publicly available large-scale dataset for scene text in natural images. (**SUNw 2016**)

### Learning Visual Clothing Style with Deep Neural Networks.

with Balazs Kovacs, Sean Bell, Julian McAuley, Kavita Bala, Serge Belongie

- Developed a learning framework using deep convolutional neural networks (CNNs) to analyze product images in the Amazon product graph to predict outfits based on product images. (**ICCV 2015**)

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## Teaching Experience

### Teaching Assistant.

Cornell University

- **CS4670: Introduction to Computer Vision:** Designed assignments and implemented several changes to help scale with the large class size (120 students).
- **CS4700: Foundations of Artificial Intelligence:** Organized assignments and advised students and managed undergrad TAs and grading sessions.

Technical University of Munich

- **IN4724: Internet-scale Distributed Systems:** Designed syllabus, hold lectures, advised student projects.

### Co-organizer.

Aspiring Researcher Challenge

- A world-wide, crowdsourced research process initiated by UC Santa Cruz, Stanford, and Cornell University. Designed overall agenda, guided research project and advised students on research.

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## Selected Achievements & Awards

2015 – 2018 Oath PhD Fellow with The Connected Experiences Laboratory

2010 – 2013 Scholarship from Cusanuswerk for outstanding academic achievements and extracurricular involvement

2010 – 2013 Fellow of the College for gifted students of the Department of Informatics at KIT

2010 Award from Department of Informatics at KIT for an outstanding bachelor degree

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## Skills and Languages

programming Python, the scientific Python stack (numpy/scipy, scikit-learn, scikit-image, etc), Java, Pytorch, Torch7, Tensorflow, R, Matlab

languages Proficient in German and English; Basic knowledge in Mandarin, French and Swedish

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## Service to the profession

Co-organized Robust Reading Challenge on COCO-Text the ICDAR 2017

Organized Entrepreneurial Computer Vision Challenge at the LDV Vision Summit in NYC, May 2016

Reviewer for: NIPS, CVPR, ICCV, ECCV, AAI, IEEE Transactions on Image Processing, IEEE Transactions on Multimedia, IEEE Transactions on Neural Networks and Learning Systems