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RESEARCH INTERESTS	Machine learning, representation learning, deep learning, visual & auditory perception, medical applications of deep learning, theory of deep learning, generative models, applications of group representation theory.
EDUCATION	<p>Universiteit van Amsterdam</p> <p>PhD candidate 2013–</p> <ul style="list-style-type: none"> • Supervisor: prof. Max Welling. • Area of study: machine learning. <p>Universiteit van Amsterdam</p> <p>M.Sc. Artificial Intelligence 2011–2013</p> <ul style="list-style-type: none"> • <i>Cum laude</i>, GPA: 9.3 / 10. • Thesis: “Learning Transformation Groups and their Invariants”. Supervisor: prof. Max Welling. Won the university-wide UvA Thesis Prize, 2014. <p>Universiteit Utrecht</p> <p>B.Sc., Computer Science 2007–2010</p> <ul style="list-style-type: none"> • <i>Cum Laude</i>, GPA: 4.0 / 4.0. • Elective courses in AI, Cognitive Neuroscience and Human Perception.
PROFESSIONAL EXPERIENCE	<p>Qualcomm Research Netherlands</p> <p><i>Research Scientist (Staff Engineer)</i> 08/2017 – Now</p> <p>Scyfer</p> <p><i>Cofounder</i> 05/2013 – 08/2017</p> <ul style="list-style-type: none"> • Successful machine learning startup specialized in deep active learning. • Developed data-efficient deep learning & active learning technologies. • The company served many high-profile clients in medical, social media, retail, finance, broadcasting, manufacturing, telecommunications, and other industries. • Acquired by Qualcomm in 2017. <p>OpenAI, Inc.</p> <p><i>Research Intern</i> 11/2016 – 03/2017</p> <p>Google DeepMind</p> <p><i>Research Intern</i> 05/2016 – 08/2016</p> <ul style="list-style-type: none"> • Semi-supervised learning of equivariant representations, with prof. Geoff Hinton. <p>Several independent game studios</p> <p><i>Freelance programmer</i> 2005–2010</p>

TEACHING
EXPERIENCE

Universiteit van Amsterdam

Teaching Assistant

2011 – 2016

- Courses: calculus, statistics, computer vision, datastructures, machine learning I, machine learning II.
- BSc thesis supervision: Carla Groenland.
- MSc thesis or project supervision: Luisa Zintgraf, Jorn Peters, Emiel Hogeboom, Marcel Boersma, Liam Schoneveld, Jonas Koehler, Tim Davidson, Pim de Haan, Mario Geiger, Maurice Weiler, Jim Winkens, Jasper Linmans, Marysia Winkels, Ties van Rozendaal.

PRIZES AND
AWARDS

- ICLR 2018 Best Paper Award for “Spherical CNNs”.
- Google PhD Fellowship, 2017.
- Best review award ICLR 2017 and Outstanding Reviewer award ICML 2018.
- First place in the university-wide thesis prize of the University of Amsterdam, for my master’s thesis “Learning Transformation Groups and their Invariants”.
- World champion mobile phone throwing 2007 (Freestyle category).

PUBLICATIONS

- T.S. Cohen, M. Geiger, M. Weiler, Intertwiners between Induced Representations (with applications to the theory of equivariant neural networks), ArXiv preprint 1803.10743, 2018.
- M. Winkels, T.S. Cohen, 3D G-CNNs for Pulmonary Nodule Detection. (Under review at MIDL 2018).
- B.S. Veeling, J. Linmans, J. Winkens, T.S. Cohen, M. Welling, Rotation Equivariant CNNs for Digital Pathology. (Under review at MICCAI 2018).
- J. Winkens, J. Linmans, B.S. Veeling, T.S. Cohen, M. Welling, Improved Semantic Segmentation for Histopathology using Rotation Equivariant Convolutional Networks (Under review at MIDL 2018).
- T.S. Cohen, M. Geiger, J. Koehler, M. Welling, Spherical CNNs. ICLR 2018 (**Best Paper Award**).
- E. Hogeboom, J.W.T. Peters, T.S. Cohen, M. Welling, HexaConv. ICLR 2018.
- T.S. Cohen, M. Geiger, J. Koehler, M. Welling, Convolutional Networks for Spherical Signals. In Principled Approaches to Deep Learning Workshop ICML 2017.
- A. Eck, L.M. Zintgraf, E.F.J. de Groot, T.G.J. de Meij, T.S. Cohen, P.H.M. Savelkoul, M. Welling, A.E. Budding, Interpretation of microbiota-based diagnostics by explaining individual classifier decisions, BMC Bioinformatics, 2017.
- T. Matiisen, A. Oliver, T.S. Cohen, J. Schulman, Teacher-Student Curriculum Learning. Deep Reinforcement Learning Symposium, NIPS 2017.
- T.S. Cohen, M. Welling, Steerable CNNs, International Conference on Learning Representations (ICLR), 2017.
- L.M. Zintgraf, T.S. Cohen, T. Adel, M. Welling, Visualizing Deep Neural Network Decisions: Prediction Difference Analysis, International Conference on Learning Representations (ICLR), 2017.
- T. Adel, T.S. Cohen, M.W. Caan, M. Welling, 3D Scattering Transforms for Disease Classification in Neuroimaging, NeuroImage: Clinical, 2017.
- T.S. Cohen, M. Welling, Group Equivariant Convolutional Networks. Proceedings of the International Conference on Machine Learning (ICML), 2016.
- L.M. Zintgraf, T.S. Cohen, M. Welling, A New Method to Visualize Deep Neural Networks. ArXiv preprint 1603.02518, 2016.
- T.S. Cohen, M. Welling, Harmonic Exponential Families on Manifolds. Proceedings of the International Conference on Machine Learning (ICML), 2015.
- T.S. Cohen, M. Welling, Transformation Properties of Learned Visual Representations. International Conference on Learning Representations (ICLR), 2015.

- T.S. Cohen, M. Welling, Learning the Irreducible Representations of Commutative Lie Groups. Proceedings of the International Conference on Machine Learning (ICML), 2014.
- T.S. Cohen, Learning Transformation Groups and their Invariants. Masters thesis, University of Amsterdam, 2013. (1st place University of Amsterdam thesis prize 2014)