Jakub M. Tomczak

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WORK EXPERIENCE

Nov 2019 - Present
Vrije Unviersiteit Amsterdam, the Netherlands
Assistant Professor of Artificial Intelligence

Research: deep generative modeling, deep learning, derivative-free optimization

Oct 2018 - Dec 2019
Qualcomm AI Research, Amsterdam, the Netherlands (**industry**)
Deep Learning Researcher (Staff Engineer)

Research: video compression, Bayesian optimization, deep learning

Oct 2016 - Sept 2018
Universiteit van Amsterdam, the Netherlands
Postdoc/Marie Sklodowska-Curie Individual Fellow, supervision: Prof. Max Welling

Research: deep generative modeling, medical imaging

Oct 2014 - Sept 2016
Wroclaw University of Technology, Poland
Assistant Professor

Research: deep generative modeling, deep learning, machine learning

Oct 2012 - Sept 2014
Wroclaw University of Technology, Poland
Postdoc, supervision: Prof. Jerzy Swiątek

Research: machine learning

Jun 2009 - Sept 2012
Wroclaw University of Technology, Poland
Research assistant, supervision: Prof. Adam Grzech

EDUCATION

Oct 2009- Mar 2013
Ph.D. in computer science (*with honors*), specialization: machine learning
Wroclaw University of Technology, Poland

Title: Incremental Knowledge Extraction from Data for Non-Stationary Objects
Supervisor: Prof. Jerzy Swiątek

Aug 2008- Dec 2009
M.Sc. in computer science
Blekinge Institute of Technology, Sweden

Supervisor: Prof. Ludwik Kuzniarz

Oct 2004- Jul 2009
M.Sc. in computer science
Wroclaw University of Technology, Poland

Track: Pre-PhD
Supervisor: Prof. Jerzy Swiątek

GRANTS

2022-2026   **Principal Investigator**, Qualcomm Individual Grant, **280 000 €**

2016-2018   **Principal Investigator**, Marie Sklodowska-Curie Individual Fellowship (EU), **177 599 €**

2016   **Researcher**, NCR&D (Poland), **7 909 741 PLN**

2013-2015   **Researcher**, NCR&D (Poland, EU), **10 672 218 PLN**

2009-2013   **Researcher**, NCR&D (Poland, EU), **36 000 000 PLN**

2012-2016   **Principal investigator**, individual grants four times, approx. **10 000 €**

AWARDS

2018-2020   **Oral presentations**: CVPR 2020, MIDL 2020, UAI 2018 (x2), AISTATS 2018

2019   Highest scoring reviewer (**top 400**) at NeurIPS 2019

2013   The Faculty award for **best Ph.D. theses**, Wroclaw University of Technology

2009   **The best M.Sc. thesis in Poland**, Polish Information Processing Society

SELECTED PUBLICATIONS

- **Book**

1. J.M. Tomczak, *Deep Generative Modeling*, Springer, Cham, 2022

- **Conference articles (Top tier)**

1. D.W. Romero, A. Kuzina, E.J. Bekkers, J.M. Tomczak, M. Hoogendoorn, CKConv: Continuous Kernel Convolution For Sequential Data, ICLR 2022

2. D.W. Romero, R.-J. Bruintjes, J.M. Tomczak, E.J. Bekkers, M. Hoogendoorn, J. van Gemert, FlexConv: Continuous Kernel Convolutions With Differentiable Kernel Sizes, ICLR 2022

3. Y. Perugachi-Diaz, J.M. Tomczak, S. Bhulai, *Invertible DenseNets with Concatenated LipSwish*, NeurIPS 2021

4. E. van Krieken, J.M. Tomczak, A. Ten Teije, *Storchastic: A Framework for General Stochastic Automatic Differentiation*, NeurIPS 2021

5. M. Ilse, J.M. Tomczak, P. Forré, *Selecting Data Augmentation for Simulating Interventions*, ICML 2021

6. E. Hoogeboom, V.G. Satorras, J.M. Tomczak, M. Welling, *The Convolution Exponential and Generalized Sylvester Flows*, NeurIPS 2020

7. D.W. Romero, E.J. Bekkers, J.M. Tomczak, M. Hoogendoorn, *Attentive Group Equivariant Convolutional Networks*, ICML 2020

8. M. Ilse, J.M. Tomczak, C. Louizos, M. Welling, *DIVA: Domain Invariant Variational Autoencoder*, MIDL 2020

9. D. Abati, J.M. Tomczak, T. Blankevoort, S. Calderara, R. Cucchiara, B.E. Bejnordi, *Conditional Channel Gated Networks for Task-Aware Continual Learning*, CVPR, 2020

10. C. Oh, J.M. Tomczak, E. Gavves, M. Welling, *Combinatorial Bayesian Optimization using the Graph Cartesian Product*, NeurIPS 2019

11. A. Habibian, T. van Rozendaal, J.M. Tomczak, T.S. Cohen, *Video compression with rate-distortion auto-encoders*, ICCV 2019

12. M. Ilse, J.M. Tomczak, M. Welling, *Attention-based Deep Multiple Instance Learning*, ICML 2018

13. J.M. Tomczak, M. Welling, *VAE with a VampPrior*, AISTATS 2018

14. T. Davidson, L. Falorsi, N. de Cao, T. Kipf, J.M. Tomczak, *Hyperspherical Variational Auto-Encoders*, UAI 2018

15. R. van den Berg, L. Hasenclever, J.M. Tomczak, M. Welling, *Sylvester Normalizing Flow for Variational Inference*, UAI 2018

- **Journal articles (top from the last three years)**

1. J. Luo, A. Stuurman, J.M. Tomczak, J. Ellers, A.E. Eiben, The Effects of Learning in Morphologically Evolving Robot Systems, Frontiers in Robotics and AI, 2022

2. G. Lan, J.M. Tomczak, D. Roijers, A.E. Eiben, Time efficiency in optimization with a bayesian-evolutionary algorithm, Swarm and Evolutionary Computation, 2022

3. F. Lavitt, D.J. Rijlaarsdam, D. van der Linden, E. Weglarz-Tomczak, J.M.Tomczak, Deep learning and transfer learning for automatic cell counting in microscope images of human cancer cell lines, Applied Sciences, 2021

4. I. Gatopoulos, J.M. Tomczak, *Self-Supervised Variational Auto-Encoders*, Entropy, 2021

5. I. Auzina, J.M. Tomczak, *Approximate Bayesian computation for discrete spaces*, Entropy 2021

6. E. Weglarz-Tomczak, J.M. Tomczak, M. Talma, M. Burda-Grabowska, M. Giurg, S. Brul, *Identification of ebselen and its analogues as potent covalent inhibitors of papain-like protease from SARS-CoV-2*, Scientific Reports, 2021

7. J.M. Tomczak, E. Weglarz-Tomczak, *Estimating kinetic constants in the Michaelis-Menten model from one enzymatic assay using Approximate Bayesian Computation*, FEBS Letters, 2019

SELECTED REVIEWING SERVICES

- **Conferences**

NeurIPS (2018, 2019, 2020, Area Chair: 2021, 2022), ICML (2019, 2020, 2021, 2022), ICLR (2019, 2020, 2021, 2022), AISTATS (2019, 2020, 2021, Area Chair: 2022), UAI (2021, 2022), MIDL (2018), INNF+@ICML (2020), INNF@NeurIPS (2019)

- **Journals**

Transactions of Machine Learning Research (Action Editor), IEEE Trans. on Pattern Analysis and Machine Intelligence, Journal of Machine Learning Research, Bioinformatics, Medical Image Analysis, Expert Systems with Applications, IEEE Transactions on Neural Systems & Rehabilitation Engineering, Knowledge-Based Systems, IEEE Journal of Biomedical and Health Informatics,, European Journal of Operation Research, Neural Processing Letters, BMC Bioinformatics