

Georgi Dikov

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EXPERIENCE

TomTom

Software Engineer, Machine Learning

Amsterdam, Netherlands

since Feb 2019

- Developed production-grade semantic segmentation models improving the overall precision by **4.1%**.
- Supervised a master thesis intern, resulted in a **paper**, to be submitted at **ICCV 2021** [1], and a **patent** application.
- Maintained components of a pipeline for automated HD map production using **AWS**, **Docker**, **Jenkins**.

Volkswagen ML Research Lab

Intern, Master Thesis

Munich, Germany

Dec 2017 – Aug 2018

- Developed a novel probabilistic neural network architecture learning approach using variational inference.
- Increased the accuracy of Bayesian convolutional networks on small datasets by up to **4%**.
- Published as a conference **paper** at **AISTATS 2019** [2], also presented in **this blog post**.

École Polytechnique

Intern, Machine Learning Research

Paris, France

Aug 2017 – Nov 2017

- Implemented a person identification attack on a GPS trajectories dataset using recurrent neural networks.
- Exposed undesirable properties of common differential privacy mechanisms wrt. the utility of the protected dataset.
- Published as workshop conference **paper** at **LocalRec ACM SIGSPATIAL 2019** [3].

PROJECTS

Hypertunity | Python, Slurm, Tensorboard

Jul 2019 – Oct 2019

- Developed a **Python library** for black-box hyperparameter Bayesian optimisation, using **GPyOpt**.
- Supports **Tensorboard** visualisation and distributed scheduling of experiments using **Slurm**.
- **Open-sourced** with continuous integration and **documentation**.

EDUCATION

Technische Universität München

M.Sc. Computer Science

Munich, Germany

Apr 2016 – Sep 2018

- Thesis on Bayesian neural network architecture learning at the **Volkswagen ML Research Lab**.
- Coursework in machine learning and computer vision with a **paper** published at **3DV 2020** [4].
- Participation at the **DeepBayes 2018** summer school on probabilistic deep learning in Moscow, Russia.
- GPA: 1.3 (1.0 highest, 4.0 pass) .

Technische Universität München

B.Sc. Computer Science

Munich, Germany

Sep 2012 – Mar 2016

- Thesis on stereo-vision with spiking neural networks, published as a conference **paper** at **Living Machines 2017** [5].
- Exchange semester at Université Pierre et Marie Curie, Paris, France.

SKILLS

Programming languages: Experienced with Python (**NumPy**, **Keras**, **TensorFlow**, **PyTorch**).

Technologies: Linux, Git, AWS, Docker, \LaTeX .

Spoken languages: Bulgarian (native), English and German (fluent), French (conversational).

PUBLICATIONS

- [1] E. Kassapis, **G. Dikov**, D. K. Gupta, C. Nugteren *Calibrated Adversarial Refinement for Stochastic Semantic Segmentation*. arXiv preprint; in preparation for a submission at **ICCV 2021**.
- [2] **G. Dikov**, J. Bayer *Bayesian Learning of Neural Network Architectures*. Accepted at **AISTATS 2019**.
- [3] A. Di Luzio, A. C. Viana, K. Chatzikokolakis, **G. Dikov**, C. Palamidessi, J. Stefa *Catch me if you can: how geo-indistinguishability affects utility in mobility-based geographic datasets*. Accepted at **LocalRec@SIGSPATIAL 2019**.
- [4] V. Golkov, M. J. Skwark, A. Mirchev, **G. Dikov**, A. R. Geanes, J. L. Mendenhall, J. Meiler, D. Cremers *3D Deep Learning for Biological Function Prediction from Physical Fields*. Accepted at **3DV 2020**.
- [5] **G. Dikov**, M. Firouzi, F. Röhrbein, J. Conradt, C. Richter *Spiking Cooperative Stereo-Matching at 2 ms Latency with Neuromorphic Hardware*. Accepted at **Biomimetic and Biohybrid Systems - Living Machines 2017**.