Georgi Dikov

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Experience

Qualcomm AI Research — Amsterdam, Netherlands
Research Engineer, Extended Reality — *since May 2021*
- Working on deep monocular depth estimation methods for XR applications.

TomTom — Amsterdam, Netherlands
Software Engineer, Machine Learning — *Feb 2019 – Apr 2021*
- Developed production-grade semantic segmentation models improving the overall precision by **4.1%**.
- Supervised a master thesis intern, resulted in a paper, under review 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 — Munich, Germany
Intern, Master Thesis — *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 — Paris, France
Intern, Machine Learning Research — *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 — Munich, Germany
M.Sc. Computer Science — *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 — Munich, Germany
B.Sc. Computer Science — *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.* arXive preprint; under review 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.