Georgi Dikov

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EXPERIENCE

Qualcomm XR Research   Amsterdam, Netherlands
Research Engineer, Computer Vision   *since May 2021*
- Significant contributions and product releases across the topics of **monocular depth estimation**, 2D and 3D **panoptic segmentation**, scene **reconstruction**, **NeRF**-based surface representation, **light estimation** and more.
- Co-inventor of **10 patents** and co-author of **5 top-conference publications** [1–5].

TomTom   Amsterdam, Netherlands
Software Engineer, Machine Learning   *Feb 2019 – Apr 2021*
- Developed (**Python**, **TensorFlow**) and maintained (**AWS**, **Docker**, **Jenkins**) semantic segmentation models for HD map annotation, improving the precision of production models by **4.1%**.
- Supervised an internship, resulting in a publication at **ICCV** 2021 [6] and a **patent**.

Volkswagen ML Research Lab   Munich, Germany
Intern, Master Thesis   *Dec 2017 – Aug 2018*
- Developed a novel Bayesian neural network architecture learning method, boosting the accuracy on very small datasets.
- Published at **AISTATS** 2019 [7].

École Polytechnique   Paris, France
Intern, Machine Learning Research   *Aug 2017 – Nov 2017*
- Exposed undesirable properties of common differential privacy mechanisms wrt. the utility of protected datasets.
- Published as workshop conference paper at **LocalRec ACM SIGSPATIAL** 2019.

PROJECTS

Hypertunity | *Python, Slurm, Tensorboard*   *Jul 2019 – Oct 2019*
- An open-source Python library for efficient **black-box hyperparameter optimisation**, using Gaussian Processes.
- Supports **Tensorboard** visualisation and distributed scheduling of experiments using **Slurm**.

EDUCATION

Technical University of Munich   Munich, Germany
M.Sc. Computer Science   *Apr 2016 – Sep 2018*
- GPA: 1.3 (1.0 highest, 4.0 pass) and a thesis on Bayesian Neural Network Architecture Learning.
- Coursework in machine learning, computer vision, optimization and statistics, and a publication at **3DV** 2020.
- Participated at the 2018 **DeepBayes** summer school on Probabilistic Deep Learning in Moscow, Russia.

Technical University of Munich   Munich, Germany
B.Sc. Computer Science   *Sep 2012 – Mar 2016*
- Thesis on Stereo Vision with Spiking Neural Networks, published at **Living Machines** 2017.
- Exchange semester at **Université Pierre et Marie Curie**, Paris, France.

SKILLS

Programming languages: Proficient in Python (**PyTorch**, **TensorFlow**, **NumPy**, **Open3D**, etc.)
Technologies: Linux, Git, CI/CD, Docker.
Spoken languages: Bulgarian (native), English and German (fluent), French (conversational).

SELECTED PUBLICATIONS

[1] A. P. Dal Cin, **G. Dikov**, J. Ju, M. Ghafoorian *AnyMap: Learning a General Camera Model for Structure-from-Motion with Unknown Distortion in Dynamic Scenes.* **Under review**.

[2] F. Langer, J. Ju, **G. Dikov**, G. Reitmayr, M. Ghafoorian *FastCAD: Real-Time CAD Retrieval and Alignment from Scans and Videos.* Accepted at **ECCV** '24.

[3] X. Shi, **G. Dikov**, G. Reitmayr, T. K. Kim, M. Ghafoorian *3D Distillation: Improving Self-Supervised Monocular Depth Estimation on Reflective Surfaces*, **ICCV** '23.

[4] J. Ju, C. W. Tseng, O. Bailo, **G. Dikov**, M. Ghafoorian *DG-Recon: Depth-Guided Neural 3D Scene Reconstruction*, **ICCV** '23.

[5] **G. Dikov**, J. Vugt *Variational Depth Networks: Uncertainty-Aware Monocular Self-Supervised Depth Estimation*, **ECCVW** '22.

[6] E. Kassapis, **G. Dikov**, D. Gupta, C. Nugteren *Calibrated Adversarial Refinement for Stochastic Sem. Segmentation*, **ICCV** '21.

[7] **G. Dikov**, J. Bayer *Bayesian Learning of Neural Network Architectures*, **AISTATS** '19.