Antonin Sulc

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Research Interests: machine learning, anomaly detection, computer vision

Education

University of Konstanz, Konstanz, Germany

PhD, Computer Vision, 2015 - 2020

- Thesis Topic: *Lightfield Analysis for non-Lambertian Scenes*
- Grade: *Magna Cum Laude* (1.0)
- Advisors: Prof. Dr. Bastian Goldlücke

Czech Technical University, Prague, Czech Republic

M.S., Artificial Intelligence, 2011 - 2014

- Topic: *On parametric model creation with Neural Modeling Fields*, nominated as CS Master Thesis of Year 2014 in Czech Republic
- Advisor: Dr. Michal Vavrecka

B.S., Intelligent Systems, 2008 - 2011

- Topic: *Covariance Matrix Adaptation Evolution Strategy*
- Advisor: Dr. Jan Drchal

Work

Data Scientist May'21 - ∞
MCS DESY Hamburg
Accelerator Control Systems,

Lecturer & Researcher March'20 - August'20
University of Haifa,
Marine Imaging Lab
Supervisor: Dr. Tali Treibitz

Lecturer & Researcher Jan'15 - Sept'20
University of Konstanz,
Computer Vision and Image Processing Group
Supervisor: Prof. Dr. Bastian Goldlučke,

Researcher Oct'18 - March'19
National Institute of Informatics in Tokyo,
Imari Sato Lab
Supervisor: Prof. Dr. Imari Sato

Software Engineer & Data Scientist Feb'14 - Dec'15
Vendavo Inc., Prague, Czech Republic
MAAS Team, Builduing a Recommendation System
Supervisor: Dr. Ludek Kopacek, Eric Bergerson

Conference Publications

1. **A. Sulc**, O. Johannsen, B. Goldluecke. Recovery of Geometry, Natural Illumination and BRDF from a Single Light Field Image, In *Journal of the Optical Society of America A*, 2021,
2. **A. Sulc**, I. Sato, B. Goldluecke, T. Treibitz. Towards Monocular Shape from Refraction, In BMVC, 2021, **accepted as oral (3.3% acceptance)**

3. S. Ishihara, **A. Sulc**, I. Sato. Depth Estimation Using Spectrally Varying Defocus Blur. In *Journal of the Optical Society of America A*, 2021

4. S. Ishihara, **A. Sulc**, I. Sato. Depth from Spectral Defocus Blur. In *Proc. International Conference in Image Processing (ICIP)*, 2019

5. M. Zhu, A. Alperovich, O. Johannsen, **A. Sulc**, B. Goldluecke. An Epipolar Volume Autoencoder with Adversarial Loss for Deep Light Field Super-Resolution. In *Proc. Conference on Computer Vision and Pattern Recognition Workshop (CVPRW)*, 2019.

6. **A. Sulc**, O. Johannsen, B. Goldluecke. Inverse Lightfield Rendering for Shape, Reflection and Natural Illumination. In *Proc. 11th International Conference on Energy Minimization Methods in Computer Vision and Pattern Recognition (EMMCVPR)*, 2017.

7. O. Johannsen, **A. Sulc**[1], N. Marniok, B. Goldluecke. Layered scene reconstruction from multiple light field camera views. In *Proc. Asian Conference on Computer Vision (ACCV)*, 2016.

8. **A. Sulc**, A. Alperovich, N. Marniok, B. Goldluecke. Reflection Separation in Light Fields based on Sparse Coding and Specular Flow. In *Proc. Vision, Modelling and Visualization (VMV)*, 2016.

9. O. Johannsen, **A. Sulc**, B. Goldluecke. Occlusion-aware depth estimation using sparse light field coding. In *Proc. German Conference on Computer Vision (GCPR)*, 2016.

10. O. Johannsen, **A. Sulc**, B. Goldluecke. What Sparse Light Field Coding Reveals About Scene Structure. In *Proc. Conference on Computer Vision and Pattern Recognition (CVPR)*, 2016.

11. O. Johannsen, **A. Sulc**, B. Goldluecke. Variational Separation of Light Field Layers. In *Proc. Vision, Modelling and Visualization (VMV)*, 2015.

12. O. Johannsen, **A. Sulc**, B. Goldluecke. On Linear Structure from Motion for Light Field Cameras. In *Proc. International Conference on Computer Vision (ICCV)*, 2015.

Invited Talks

- Light-field Analysis for non-Lambertian Scenes, *Pixel Club*, Winter 2020, Haifa, Israel
- Light-fields: Beyond the Lambertian, *The 38th Pattern Recognition and Computer Vision Colloquium*, Spring 2016, Prague, Czech Republic
- Light-field Analysis for non-Lambertian Scenes, *The 11th IMPACT Seminar*, Winter 2017, Prague, Czech Republic
- Computer Vision for Biology, *Summer School in Quantitative Field Biology*, Summer 2017, Konstanz, Germany

Teaching Experience

Co-instructor, University of Konstnaz

Image Analysis and Computer Vision I,
Image processing, Feature Detection, 3D reconstruction

Image Analysis and Computer Vision II,
Pattern Recognition, Graphical Models, Variational methods

[1] Equal Contribution

Deep Learning in Computer Vision (Seminar),
Deep Learning, MatConvNet

Deep Learning in Computer Vision,
TensorFlow, CNNs, Auto-Encoders, GANs

Key Skills	Python, R, TensorFlow, CUDA, MATLAB, C, C++
Languages	English (C1), German (B2), Czech (native)
Reviews	ICCV'19, ACCV'18, GCPR'17, TPAMI