

Name: Márton Vaitkus

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Education

2015-2018 PhD, Computer Science

Budapest University of Technology and Economics, Budapest, Hungary

Advisor: Dr. Tamás Várady

(Thesis in preparation)

2012-2015 MSc, Electrical Engineering

Budapest University of Technology and Economics, Budapest, Hungary

Thesis: Parameterizing triangular meshes with complex geometric constraints

Advisor: Dr. Tamás Várady

2007-2012 BSc, Electrical Engineering

Budapest University of Technology and Economics, Budapest, Hungary

Thesis: Segmenting images and triangular meshes using methods of algebraic topology

Advisor: Dr. Tamás Várady

Work experience

September 2018- Lecturer

Department of Control Engineering and Information Technology

Budapest University of Technology and Economics, Budapest, Hungary

February-June 2012 V&V Internship

GE Healthcare, Budaörs, Hungary

Scientific publications

Journal papers

Tamás Várady, Péter Salvi, Márton Vaitkus, Ágoston Sipos. (2020). **Multi-sided Bézier surfaces over curved, multi-connected domains**. Computer Aided Geometric Design, 78, 101828. Elsevier.

<https://doi.org/10.1016/j.cagd.2020.101828>

Márton Vaitkus, Tamás Várady. (2018). **A Labeling Algorithm for Trimmed Surface Fitting**. Computer-Aided Design and Applications, 106(4). Taylor & Francis.

<https://doi.org/10.14733/cadaps.2019.720-732>

Márton Vaitkus, Tamás Várady. (2018). **Parameterizing and extending trimmed regions for tensor-product surface fitting**. Computer-Aided Design, 104, pp. 125-140. Elsevier. <https://doi.org/10.1016/j.cad.2017.11.008>

Conference papers

Márton Vaitkus, (2019). **Notes on Curve Network Interpolation**. Proceedings of the Workshop on the Advances of Information Technology (WAIT 2019), Budapest, Hungary, 2019, pp. 77-86

Márton Vaitkus, Tamás Várady. (2018). **A Labeling Algorithm for Trimmed Surface Fitting**. Proceedings of CAD'18, Paris, France, 2018.07.9-11., pp. 86-90.

Márton Vaitkus, Tamás Várady. (2018). **Mesh Extension for Labeled Surface Fitting**. IX. Magyar Számítógépes Grafika és Geometria Konferencia (GRAFGEO 2018), Budapest, Hungary, 2018.03.21-22., pp. 1-9.

Márton Vaitkus, Tamás Várady. (2015). **A General Framework for Constrained Mesh Parameterization**. 31st Spring Conference on Computer Graphics (SCCG 2015), Smolenice, Slovakia, 2015.04.22-24., pp. 15-21. – „2nd Best Paper” Award.

Márton Vaitkus. (2016). **Investigations on the Connections Between Bézier Curves and Surfaces and Quantum Mechanics**. VIII. Magyar Számítógépes Grafika és Geometria Konferencia (GRAFGEO 2016), Budapest, Hungary, 2016.03.30-31., pp. 105-116.

Márton Vaitkus. (2016). **Investigations on the Connections Between Bézier Curves and Surfaces and Classical Mechanics**. VIII. Magyar Számítógépes Grafika és Geometria Konferencia (GRAFGEO 2016), Budapest, Magyarország, 2016.03.30-31., pp. 94-104.

Márton Vaitkus, Tamás Várady. (2015). **Labeled parameterization for high-quality surface fitting**. Képfeldolgozók és Alakfelismerők Társaságának 10. országos konferenciája (KÉPAF 2015), Kecskemét, Hungary, 2015.01.27-30., pp. 675-686.

Márton Vaitkus, Tamás Várady. (2014). **Mesh parameterization with geometric constraints**. VII. Magyar Számítógépes Grafika és Geometria Konferencia (GRAFGEO 2014), Budapest, Hungary, 2014.02.19-20., pp. 37-45.

Márton Vaitkus. (2013). **Grayscale and Color Image Segmentation Using Algebraic Topology**. 17th Central European Seminar on Computer Graphics (CESCG 2013), Smolenice, Slovakia, 2013.04.28-30, pp. 95-102.

Conference talks/abstracts

Márton Vaitkus. (2017). **Polar Forms - A Physical Perspective**. Second International Conference on Subdivision, Geometric and Algebraic Methods, Isogeometric Analysis and Refinability in Italy (SMART 2017), Gaeta, Italy, 2017.09.17-21., p. 65.

Márton Vaitkus. (2016). **On Some Analogies Between Bézier Theory and Mathematical Physics**. 9th International Conference on Mathematical Methods for Curves and Surfaces, Tonsberg, Norway, 2016.06.23-28., p. 88.

Márton Vaitkus, Tamás Várady. (2014). **Parameterizing Triangle Meshes with Geometric Constraints**. First International Conference on Subdivision, Geometric and Algebraic Methods, Isogeometric Analysis and Refinability in Tuscany (SMART 2014), Pontignano, Italy, 2014.09.28. – 10.01.

Other

Márton Vaitkus. **Triangle Mesh Parameterization with Geometric Constraints**. Student Research Society paper. Advisor: Dr. Tamás Várady. – BME-VIK Faculty Competition, 2013: 1st Award; National Competition, 2015: 2nd Award.

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