Prof. Ing. Libor Váša, Ph.D.

born 11.6.1981 | address: Majerova 1561/2, 301 00 Plzeň, Czech Republic
phone: +420 608 968 687 | e-mail: lvasa@kiv.zcu.cz

CURRENT EMPLOYMENT (SINCE APRIL 2015)

Full professor, University of West Bohemia, Faculty of Applied Sciences, Department of Computer Science and Engineering, Centre of Computer Graphics and Visualisation. Vice-Dean for Study and Pedagogical Affairs since March 2021.

PREVIOUS EMPLOYMENT

February 2012 – March 2015

Research assistant, TU-Chemnitz, Professorship Computer Graphics and Visualization. Working on the topic of compressing surface models, animations and motion capture data and evaluation of the visual effects of lossy compression (full time).

May 2006 – January 2012

Research assistant, University of West Bohemia, Department of Computer Science and Engineering, Centre of Computer Graphics and Visualisation. Working on the topic of compressing surface models and animations with constant connectivity and evaluation of the visual effects of lossy compression of such data.

CAREER

2025

Promoted to full professor in Computer science and engineering

2014

Habilitation at University of West Bohemia, thesis entitled *"Lossy compression of mesh geometry"*

2004-2008

- Ph.D. studies at University of West Bohemia, Pilsen, Czech Republic, doctoral programme Computer Science and Engineering, supervisor prof. ing. Václav Skala, CSc.
- received Ph.D. for the thesis entitled "*Methods for size reduction of dynamic meshes*"

February 2006 – April 2006

Internship at First Numerics Ltd. in Cardiff, UK, part of the Leonardo programme. Working on 2D and 3D visualisation tools for plotting spatio-temporal datasets

September 2003 – January 2004

Erasmus exchange student at University of Bath, UK

1999-2004

- MSc. studies at University of West Bohemia, Faculty of Applied Sciences, Department of Computer Science and Engineering, specialisation Computer Graphics.
- graduated with honours, diploma thesis entitled "*Resolution improvement of digitized images*"

PUBLICATIONS

- Author or co-author of 28 journal publications (14x first author) in the following journals:
  - D1: IEEE **Transactions on Visualization and Computer Graphics** (3x), **IEEE Transactions on Multimedia** (1x)
  - Q1: **Computer Graphics Forum** (14x),
  - Q2: Journal of Molecular Graphics & Modelling (1x)
  - Q3: Graphical Models (2x), The Visual Computer (3x), Computers & Graphics (2x)
  - Q4: Computer Animation And Virtual Worlds (1x)
  - Scopus: Computer Aided Design and Applications (1x), Computer-Aided Design (1x)
- Author or co-author of **22 conference contributions**

PROJECT WORK EXPERIENCE

- GAČR 20-02154S Representation and processing methods for three dimensional dynamic shapes (**principal investigator**)
- GAČR 23-04622L Data compression paradigm based on omitting self-evident information – COMPROMISE (investigator)
- Industry funded research project with **Intel Israel Ltd.** (details under NDA)
- TAČR FW03010025 Therapeutic rehabilitation robot controlled by brain signals
- LC-CPG: Centre of Computer graphics (MŠMT LC-06008)
- 3DTV:Network of Excellence, project EU FP6, Grant 511568
- INTUITION - Network of Excellence on VIrtual Reality aNd VirTUal Environments ApplIcaTIONs for Future Workspaces, FP6-2003-IST-2, Grant 507248-2
- Development of Algorithms for Computer Graphics and CAD/CAM systems (MŠMT LH12181)
- Industry funded research project with PDM Technology Europe, s r. o. (2x)

LIST OF ACTIVITIES RELEVANT TO THE GRANT PROJECT

- Published a novel method for ML-based compression of triangle meshes
- Proposed methods for distortion evaluation for triangle meshes and mesh sequences (in Computer Graphics Forum and IEEE Trans. on Visualization and Computer Graphics)
- Proposed a method for establishing correspondence in sequences of triangle meshes of varying connectivity (in Computers and Graphics)

SKILLS

- English language – active, Cambridge Advanced Examination (CAE) certificate
- German language – active (Level C1)
- programming: C, C++, C#, Java, DirectX, OpenGL
- working knowledge of computer graphics and visualisation algorithms
- specialised knowledge of polygon mesh processing algorithms
- experience with conducting user studies focused on perception
- experience with developing modular visualization environment MVE-2 (team leader)

AWARDS

2009 Dean's Award for a high quality Ph.D. thesis and publication activities in prestigious scientific journals

2010 Best Suitable Commercial Application of 6-th International Conference Articulated Motion and Deformable Objects 2010, Port Andratx, Spain awarded to paper Rus,J., Váša,L.: Analysing the influence of vertex clustering on PCA-based dynamic mesh compression

REVIEWER FOR SCIENTIFIC JOURNALS

IEEE Transactions on Visualization and Computer Graphics, The Visual Computer, Computer Graphics Forum, Computer Animation and Virtual Worlds, Computers & Graphics, Graphical Models, Journal of Graphics Tools, Signal processing: Image Communication Journal, IEEE Transactions on Circuits and Systems for Video Technology, **67 reviews in total**

REVIEWER FOR CONFERENCES

CGI 2011, WSCG 2007-2012, 3DTV conference 2008-2012, SMC 2012, CGI 2013, GMP 2013, SIGGRAPH 2016, Eurographics 2022-23 and others

TALKS AND TEACHING

- tutorial at Eurographics 2012 *"Perceptual Metrics for Static and Dynamic Triangle Meshes"*, with M. Corsini, Ch. Larabi, G. Lavoué, O. Petřík and K. Wang (2012)
- invited talk *"Compressing animated meshes: low data rate and low perceived distortion"*, TU Dresden and TU Chemnitz (2012)
- invited talk *"Compression in computer graphics: efficiency and perception"*, USI Lugano (2012)
- lectures and tutorials on multiple computer science and computer graphics courses at University of West Bohemia (2005-2024) and at TU Chemnitz (2012-2015)

- supervisor of 19 BSc. Theses, 12 MSc. theses, 1 Ph.D. thesis, supervisor of three current Ph.D. students