Ondřej Texler

Personal Data

Affiliation: NEON
Samsung Research America
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Education

Doctoral degree study (PhD) **2018 – 2021**
Computer Graphics, Faculty of Electrical Engineering, Czech Technical University in Prague.
Dissertation Thesis: Example-based Style Transfer.

Master degree study (MSc) **2016 – 2018**
Computer Science, Faculty of Information Technology, Czech Technical University in Prague.
Master Thesis: Digital Image Processing and Image Stylization.

Bachelor degree study (BSc) **2012 – 2015**
Computer Science, Faculty of Information Technology, Czech Technical University in Prague.
Bachelor Thesis: Architecture design and implementation of a large software system.

High school **2004 – 2012**
Mathematics, Physics, and Descriptive Geometry specialization, Gymnasium of Christian Doppler.

Professional Experience

Senior Research Scientist, Samsung Research America, California **3/2021 – Present**
Research & Development. Research and implementation of computer vision and deep learning techniques related to creating a virtual artificial human. Part of the NEON.life team.

Intern Research Scientist, Samsung Research America, California **4/2020 – 2/2021**
Research & Development. Research and implementation of various image-to-image and video-to-video translation neural networks. Part of the NEON.life team.

Intern Research Scientist, Snap Inc., Los Angeles, California **7/2019 – 10/2019**
Research & Development. Research of new techniques on training generative adversarial networks for style transfer tasks; focused on a scenario where a minimal amount of data is available, and an interactive response is required. Furthermore, developing a shader-based real-time stylization for human portraits.

Remote Collaboration, Adobe Research, USA **9/2017 – 12/2019**
Research & Development. Remote collaboration on several research projects, publications, and tech transfer project. Computer graphics; patch-based style transfer; neural-network-based style transfer.

Intern Research Scientist, Adobe Research, Seattle, Washington. **7/2018 – 10/2108**
Research & Development. Combining neural-network-based and patch-based style transfer methods. Chunk-based style transfer method with a focus on real-time performance.

Intern Research Scientist, Adobe Research, San Jose, California **9/2017 – 12/2107**
Research & Development. Guiding patch-based style transfer method using convolutional neural networks, image harmonization, and histogram optimization. Integrating developed style transfer method into Adobe Photoshop.

Software Architect and Developer, Dynavix, Prague, Czechia **5/2014 – 9/2017**
Software Architecture & Development. The navigation application for smartphones, tablets, and PND devices. C++, Java (Android), JavaEE, Objective-C (iOS), C#.

Software Developer, World of Warcraft game server, Prague, Czechia **2/2013 – 5/2014**
Software & Database Development. The World of Warcraft game server. Extending game mechanics, scripting artificial intelligence, data-mining. C++, C#.

Publications

A. Texler, **O. Texler**, M. Kučera, M. Chai, and D. Sýkora: **FaceBlit: Instant Real-time Example-based Style Transfer to Facial Videos.** In *Proceedings of the ACM in Computer Graphics and Interactive Techniques, 4(1)* (I3D'21, April 2021)

F. Hauptfleisch, **O. Texler**, A. Texler, J. Křivánek, and D. Sýkora: **StyleProp: Real-time Example-based Stylization of 3D Models.** In *Computer Graphics Forum, 39(7):575–586* (Pacific Graphics 2020)

O. Texler, D. Futschik, M. Kučera, O. Jamriška, Š. Sochorová, M. Chai, S. Tulyakov, and D. Sýkora: **Interactive Video Stylization Using Few-Shot Patch-Based Training.** In *ACM Transactions on Graphics, 39(4):73* (SIGGRAPH 2020, August 2020) **Featured at RealTime Live @ SIGGRAPH 2020, won Best in Show Award.**

O. Texler, D. Futschik, J. Fišer, M. Lukáč, J. Lu, E. Shechtman, and D. Sýkora: **Arbitrary Style Transfer Using Neurally-Guided Patch-Based Synthesis.** In *Computers & Graphics, 87:62–71* (January 2020)

O. Jamriška, Š. Sochorová, **O. Texler**, M. Lukáč, J. Fišer, J. Lu, E. Shechtman, and D. Sýkora: **Stylizing Video by Example.** In *ACM Transactions on Graphics, 38(4):107* (SIGGRAPH 2019, Los Angeles, California, July 2019)

O. Texler, J. Fišer, M. Lukáč, J. Lu, E. Shechtman, and D. Sýkora: **Enhancing Neural Style Transfer using Patch-Based Synthesis.** In *Proceedings of the 8th ACM/EG Expressive Symposium, pp. 43–50* (Expressive 2019, Genoa, Italy, May 2019)

D. Sýkora, O. Jamriška, **O. Texler**, J. Fišer, M. Lukáč, J. Lu, and E. Shechtman: **StyleBlit: Fast Example-Based Stylization with Local Guidance.** In *Computer Graphics Forum, 38(2):83–91* (Eurographics 2019, Genoa, Italy, May 2019)

O. Texler and D. Sýkora: **Example-Based Stylization of Navigation Maps on Mobile Devices.** In *Proceedings of the 22nd Central European Seminar on Computer Graphics.*, (CESCG 2018, Smolenice, Slovakia, 2018)

Selected Talks

BBC News Arabic, link
Interactive Video Stylization Using Few-Shot Patch-Based Training
StyleProp: Real-time Example-based Stylization of 3D Models

RealTime Live! at SIGGRAPH 2020, link
Interactive Video Stylization Using Few-Shot Patch-Based Training

ECCV 2020, short oral, link
Interactive Video Stylization Using Few-Shot Patch-Based Training

SIGGRAPH 2020, paper session, link
Interactive Video Stylization Using Few-Shot Patch-Based Training

Expressive 2019 - paper session
Enhancing Neural Style Transfer using Patch-Based Synthesis

EuroGraphics 2019 - paper session
StyleBlit: Fast Example-Based Stylization with Local Guidance

CESCG 2018 - paper session
Example-Based Stylization of Navigation Maps on Mobile Devices

Computer Science & Programming Skills

Academic / Research & Development
4 years of conducting research and publishing of scientific papers.

Computer Graphics / Computer Vision
4 years of academic and practical experience (shaders, CUDA, OpenCV).

Deep Learning / Convolutional Neural Networks / GANs
2 years of practical and theoretical experience (PyTorch, NumPy, SciPy).

Software Architecture & Development
6 years of practical experience.

C/C++11/14
Proficient. 7 years of practical experience.

Java, Android
Proficient. 6 years of experience in Java; 5 years of experience in Android.

Python
Advanced. 2 year of practical experience; machine learning, data-science.

C#, Objective-C
Intermediate. 2 years of practical experience.

Student Supervision

CTU in Prague:
A. Moravcová (MSc), A. Sternwaldová (MSc)

National Languages

Czech language: *Native speaker*
English language: *Fluent*
Russian language: *Beginner*