

## PERSONAL DATA

*Affiliation:* [Samsung Research America](#)  
Mountain View, California, USA  
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## RESEARCH SUMMARY

My entire research career has been revolving around generating realistically looking content given certain conditions. During my PhD I focused on research into style transfer – generating realistically looking paintings and animated movies. These days, at Samsung Research America, I do research into computer vision techniques to generate virtual humans with a particular emphasis on photorealism.

## EDUCATION

- Doctoral degree study (PhD)** **2018 – 2021**  
Computer Graphics, Czech Technical University in Prague.  
Dissertation Thesis: Example-based Style Transfer.  
Advised by [Prof. Daniel Sýkora](#)
- Master degree study (MSc)** **2016 – 2018**  
Computer Science, Czech Technical University in Prague.  
Master Thesis: Digital Image Processing and Image Stylization.
- Bachelor degree study (BSc)** **2012 – 2016**  
Computer Science, 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 to render photorealistic virtual humans, focusing on faces. Involved conditional GANs, image-to-image translation networks, deferred neural rendering. Part of the [neonlife.ai](#) project.
- 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 for face manipulation, e.g., adding makeup, changing skin tone, adding or removing scars or wrinkles. Part of the [neonlife.ai](#) project.
- 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. C++, Java, Objective-C, C#.

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

## PUBLICATIONS

S. Ravichandran, **O. Texler**, D. Dinev, and H.J. Kang: **Synthesizing Photorealistic Virtual Humans Through Cross-modal Disentanglement.** *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2023, June 2023)*

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):14 (I3D'21, April 2021)

F. Hauptfleisch, **O. Texler**, A. Texler, J. Krivánek, 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)

## PATENTS

**O. Texler**, D. Dinev, A. Gupta, H.J. Kang, A. Liot, S. Ravichandran, S. Sadi: **Hierarchical Creation of Visual Data for Generating Images of Human Faces**, *Patent No. US17/967868*, June 2022

S. Ravichandran, A. Liot, D. Dinev, **O. Texler**, H.J. Kang, J. Palan, S. Sadi: **Creating Talking Animations from Visemes Audio Features**, *Patent No. US17/967872*, June 2022

S. Ravichandran, D. Dinev, **O. Texler**, A. Gupta, J. Palan, H.J. Kang, A. Liot, S. Sadi: **Disentanglement of Modalities Through Augmentation for Generating Virtual Avatars**, *Provisional App. No. 63/359,950*, July 2022

D. Dinev, **O. Texler**, S. Ravichandran, J. Palan, H.J. Kang, A. Gupta, A. Unnikrishnan, A. Liot, S. Sadi: **End-to-end System for Synthesizing Talking Virtual Human Avatars**, *Provisional App. No. 63/436,058*, December 2022

H.J. Kang, S. Ravichandran, **O. Texler**, D. Dinev, A. Liot, S. Sadi: **Architecture for Using 1D Inputs in Image-2-Image Translation Networks**, *Provisional App. No. 63/436,211*, December 2022

## SELECTED TALKS & INTERVIEWS

**SIGGRAPH Now 2021**, invited talk, [link](#)  
**2d3d.ai**, invited talk, 2021, [link](#)  
**BBC News Arabic**, interview, 2020, [link](#)  
**RealTime Live!**, session at SIGGRAPH 2020, [link](#)  
**ECCV 2020**, short oral, [link](#)  
**SIGGRAPH 2020**, paper session, [link](#)  
**Expressive 2019**, paper session  
**EuroGraphics 2019**, paper session  
**CESCG 2018**, paper session

## REVIEW SERVICES

**TVCG 2022**, IEEE Transactions on Visualization and Computer Graphics  
**SIGGRAPH Asia 2022**, ACM Transactions on Graphics  
**SIGGRAPH 2022**, ACM Transactions on Graphics  
**SIGGRAPH Asia 2021**, ACM Transactions on Graphics  
**Pacific Graphics 2021**, Computer Graphics Forum

## AWARDS

**Joseph Fourier Prize Laureate**, 2021  
**Best in Show Award**, Real-Time Live, SIGGRAPH 2020

## STUDENT SUPERVISION

**A. Moravcová**, MSc, CTU in Prague  
**A. Sternwaldová**, MSc, CTU in Prague

## PROGRAMMING & TOOLS

**C/C++**, **Python**, **Java**  
**PyTorch**, **OpenCV**, **CUDA**