Artem Sevastopolsky

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Education

2021–present **Ph.D. in Computer Science (pursuing degree)**,
Technical University of Munich,
Faculty of Informatics,
Visual Computing & Artificial Intelligence lab,

Research topic: *Human Face and Body Representation based on Deep Learning*
Advisor: *Dr. Prof. Matthias Nießner* (personal page).

2019–2021 **Ph.D. in Computer Science (pursuing degree)**,
Skolkovo Institute of Science and Technology,
Faculty of Data Science,
Computer Vision Group,

Research topic: *Neural 3D Representations*
Advisor: *Dr. Prof. Victor Lempitsky* (personal page).

2017–2019 **Master of Computer Science (with highest honors)**,
Skolkovo Institute of Science and Technology,
Faculty of Data Science,
Computer Vision Group,

GPA – 5.00 / 5.00,
Thesis: *Learning image deformations via deep learning*
Advisor: *Dr. Prof. Victor Lempitsky* (personal page).

2013–2017 **Bachelor of Computer Science (with highest honors)**,
Lomonosov Moscow State University,
Faculty of Computational Mathematics and Cybernetics,
Mathematical methods of forecasting,

GPA – 4.87 / 5.00.
Thesis: *Glaucoma detection methods based on deep neural networks*
Advisor: *Dr. Prof. Alexander D'yakonov* (personal page)

Work Experience

05/21 – Present **Research Visitor**, Technical University of Munich (TUM), Munich, Germany.
Visitor at the Visual Computing & Artificial Intelligence lab led by Prof. Matthias Nießner.
- Involved in a project on bias reduction and fairness increase in facial recognition and other face-related computer vision problems.

01/19 — 05/21 **Engineer**, Samsung AI Center Moscow, Moscow, Russia.
- Worked on 3D neural portrait relighting from smartphone videos. Prepared the free-viewpoint lighting-conditioned rendering system.
- Worked on two neural rendering methods (accepted to ECCV '20 and 3DV '20). Captured a specific dataset of fixed-pose people required for this work.
- Worked on human body image resynthesis from unseen camera positions.
- Was investigating an ununsual approach to image inpainting based on image deformations.

06/18 —
01/19

Assistant Engineer, SAMSUNG AI CENTER MOSCOW, Moscow, Russia.
- Developed a technique for better learning of image warpings for face/body rotation.
- Co-authored a paper accepted to CVPR'19 on body resynthesis in new poses to a top-level computer vision conference together with the colleagues.

SAMSUNG

01/2017 —
— 05/2018

Deep Learning Engineer, YOUTH LABORATORIES, Moscow, Russia.
Worked as an R&D engineer on several medical imaging projects.
- Lead of automated eye diseases diagnosis project.
- Main researcher and developer of wrinkles analysis project *PRIMOS*.
- Researcher and developer of recommendational system for skin aging.
- Task author and supervisor of Skinhack 2.0 hackathon (Nov 2017).
- Helped hiring junior professionals and interns.

Research was funded and supervised by Nivea (Beiersdorf AG), Hamburg, Germany.
Youth Laboratories is a Skolkovo Resident company.

07/2016 —
— 09/2016

Deep Learning Intern, ARTEC 3D, Moscow, Russia.
Performed facial recognition on 3D data from Artec scanners based on machine learning and neural networks. Successfully developed and fully programmed algorithms for facial landmark detection on 3D data. Presented methods achieved competitive quality for standard situations and state-of-the-art results for range of important extremal cases.

07/2015 —
— 10/2015

Software Developer, OPEN CAPITAL LLP, Moscow, Russia.
Developed software for processing of large data sets of sentiment data for backtesting of high frequency trading strategy. Prepared effective Python language study plan after request of company CEO and helped hiring junior Python programmers.

Publications

2020
TRANSPR: Transparency Ray-Accumulating Neural 3D Scene Point Renderer.
Kolos M.*, Sevastopolsky A.*, Lempitsky V.
To be published in the *Proceedings of the International Conference on 3D Vision (3DV). 2020.* (pdf) (project page) (YouTube)

2020
Neural Point-Based Graphics.
Aliev K.-A., Sevastopolsky A., Kolos M., Ulyanov D., Lempitsky V.
To be published in the *Proceedings of the IEEE European Conference on Computer Vision (ECCV). 2020.* (pdf) (project page) (GitHub) (YouTube)

2019
Coordinate-based Texture Inpainting for Pose-Guided Human Image Generation.
Grigorev A., Sevastopolsky A., Vakhitov A., Lempitsky V.
Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR). 2019. (pdf) (project page)

2019
Accuracy of computer-assisted vertical cup-to-disk ratio grading for glaucoma screening.
Blake M Snyder, Sang Min Nam, Preeyanuch Khunsongkiet, Sakarin Ausayakhun, Thidarat Leeungurasatien, Maxwell R Leiter, Artem Sevastopolsky, Ashlin S Joye, Elyse J Berlinberg, Yingna Liu, David A Ramirez, Caitlin A Moe, Somsanguan Ausayakhun, Robert L Stamper, Jeremy D Keenan
PloS one 14.8 (2019): e0220362. (html)

2018
Stack-U-Net: Refinement Network for Image Segmentation on the Example of Optic Disc and Cup.
Sevastopolsky A., Drapak S., Kiselev K., Snyder B., Keenan J., Georgievskaya A.
Proceedings of Medical Imaging 2019. International Society for Optics and Photonics, 2019. (pdf)

2018
PhotoAgeClock: deep learning algorithms for development of non-invasive visual biomarkers of aging.
Bobrov E., Georgievskaya A., Kiselev K., Sevastopolsky A., Zhavoronkov A., Gurov S., Rudakov K., Del Pilar Bonilla Tobar M., Jaspers S., Clemann S.
Aging (Albany NY) 10.11 (2018): 3249. (pdf)

2017 **Optic disc and cup segmentation methods for glaucoma detection with modification of U-Net convolutional neural network**
Sevastopolsky A.
Pattern Recognition and Image Analysis 27 (2017), no. 3, 618–624. (arXiv) (Springer) (GitHub)

Public Talks

2022 TA at the 3D Scanning & Motion Capture (IN2354) course at TUM. Organization, communication with the students, delivering exercises and supervising final projects, exam preparation and checking.

2020 Talk "Neural Rendering of Point Clouds: View Resynthesis, Transparency, and Relighting" at the 6th Skoltech Christmas Colloquim on Computer Vision (talk video)

2020 TA at the Deep Learning course at Skoltech. Gave 3 seminars, delivered a problem set, mentored 5 capstone projects, participated in the course organization.

2019 Talk "Coordinate-based Texture Inpainting for Pose-Guided Human Image Generation" at Samsung Best Paper Award 2019 internal event, Seoul, South Korea

2019 Talk "Coordinate Texture: Redressing and Pose Change for Human Images" at DataFest Meetup, Moscow, Russia (in Russian) (youtube) (presentation)

2019 Poster "Coordinate-based Texture Inpainting for Pose-Guided Human Image Generation" at CVPR 2019, Long Beach, CA, US (pdf)

2017 Poster "Glaucoma Detection with W-Net Neural Network" at NVIDIA GPU Technology Conference Europe 2017, Munich, Germany (pdf)

2017 Poster "Glaucoma Detection with Deep Neural Networks" at MACHINES CAN SEE summit, Moscow, Russia (pdf)

Awards and scholarships

2019 Samsung Best Paper Award – Bronze prize for "Coordinate-based Texture Inpainting for Pose-Guided Human Image Generation"

2016 Skinhack deep learning team hackathon at Skoltech, face wrinkles detection — 2nd place (diploma)

2013–2019 Have been receiving academic scholarship for progress in studies each semester

2015, 2017 Received personal Lomonosov MSU academic scholarship for exceptional progress in study during spring semester, 2015 and spring semester, 2017

2013 Moscow Programming Olympiad for High school students — Prize Winner

2012 ITMO University, Saint Petersburg, Olympiad "IT" for High school students — Winner

Languages

English Fluent
German Basic (A2/B1)
Russian Native

Links to social profiles

Personal page https://seva100.github.io
Google Scholar https://scholar.google.com/citations?hl=en&user=fTSCTYQAAAAJ
GitHub https://github.com/seva100
LinkedIn https://www.linkedin.com/in/artem-sevastopolsky-23b9b5b7