Yeara Kozlov

Contact Information	yeara.kozlov (at) gmail.com yearakozlov.com Zürich Switzerland

Education

ETH Zürich & Disney Research   Zürich, Switzerland
PhD Candidate in Computer Science   October 2014 - Summer 2019
Department of Computer Science, Computer Graphics Lab
Disney Research, Capture and Effects Group
Thesis Topic: *Anatomy-Impartial Methods for Physically-Based Simulation of Faces.*
Advisors: *Prof. Markus Gross, Dr. Thabo Beeler, Dr. Derek Bradley*

Universität Des Saarlandes   Saarbrücken, Germany
M.Sc. in Visual Computing   July 2014
Master Thesis: *Analysis of Energy Regularization for Harmonic Surface Deformation*
Advisors: *Dr-Ing. Tino Weinkauf, Dr-Ing. Janick Martinez Esturo*

Technion - Israeli Institute of Technology   Haifa, Israel
B.Sc. in Physics   March 2011

Research Experience

ETH Zürich and Disney Research   Zürich, Switzerland
Research Assistant   October 2014 - May 2019
Research assistant in the *Capture and Effects* group. The group develops technologies to create digital humans for feature film post-production. My research was focused on capturing the physics of human faces. The goal was to estimate the physical properties of the human face from capture data and developing methods to synthesize realistic face motion. My research included:

- Developing algorithms to solve complex problems, starting from simple toy-problems to the point of real-world usage.

- Working on non-linear, inverse optimization problems for estimating physical properties of faces from performance capture data. This class of problems requires good understanding of the numerical properties of both the forward simulation model and inverse optimization problem.

- Capturing, reconstructing, tracking and processing face performance data, using a multi-view stereo photogrammetry.

- Some use of machine learning for label propagation.

- Using a large variety of geometry processing, optical flow and image processing methodologies.

Publications

Peer Reviewed Publications

- Yeara Kozlov, Derek Bradley, Moritz Bächer, Bernhard Thomaszewski, Thabo Beeler, and Markus Gross. Enriching facial blendshape rigs with physical simulation. *Proceedings of Eurographics 2017, Comput. Graph. Forum*, volume 36, part 2 (May 2017).

- Amit H. Bermano, Thabo Beeler, Yeara Kozlov, Derek Bradley, Bernd Bickel, and Markus Gross. Detailed spatio-temporal reconstruction of eyelids. *ACM Trans. Graph (Proceedings of SIGGRAPH 2015)*, volume 34, pages 44:1–44:11, (July 2015).

TECHNICAL REPORTS

- Yeara Kozlov, Hongyi Xu, Moritz Bcher, Derek Bradley, Markus Gross and Thabo Beeler. Data-Driven Physical Face Inversion. 2019, arXiv:1907.10402

DEPARTMENT SERVICE	ETH ZÜRICH **CSNOW Co-leader**	Zürich, Switzerland January 2016 - January 2019

CSNOW is the Network of Women in Computer Science, part of the Department of Computer Science at ETH Zrich. The goal of this organization is to encourage the participation of women in computer science. As one of the two PhD students leading the organization, I was responsible for coordinating all of our activities throughout the academic year, managing a team of six student helpers, and organizing a week-long coding camps for female high school students twice per year. In addition to these responsibilities, I also established a culture of team communication and knowledge sharing. During my role, the attendance of our high-school student coding camps and department targeted events grew from few participants (10-15 high school student and 20-30 department members per event) to all of our events consistently being booked out, with some department-targeted events drawing in over 100 participants.

TECHNICAL SKILLS

- Five years of programming in C++ (including some C++11).
- Five years of scripting in Python.
- Experience with QT, OpenCV, OpenMP, MATLAB, Eigen, KNITRO.
- Use of version control (git), build systems, automated and reproducible experiments and data processing.
- Soft skills: presentations at variable technical level, as appropriate for the target audience, writing.

LANGUAGE PROFICIENCY

- English: Fluent
- German: Conversational
- Hebrew: Fluent

NATIONALITY

- Israeli