Davide Sforza

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EDUCATION

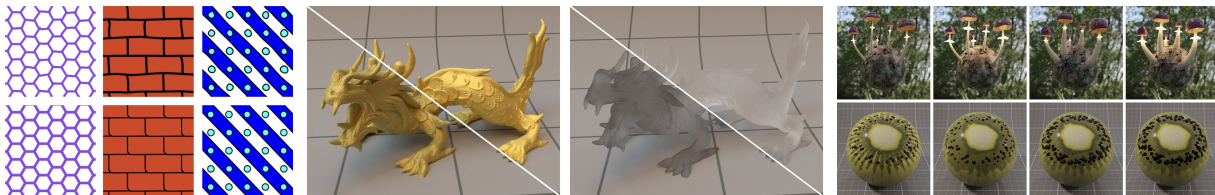|	
2021 – Present	**Ph.D. in Computer Science** Sapienza University of Rome » *Advisor:* prof. Fabio Pellacini
2018 – 2021	**M.Sc. in Computer Science** Sapienza University of Rome » *Thesis:* Enforcing energy conservation in microfacet models » *Thesis advisor:* prof. Fabio Pellacini » *Final grade:* 110/110 cum laude
2020 – 2021	**Erasmus+ mobility for study** Vienna University of Tecnology
2015 – 2018	**B.Sc. in Computer Science** Sapienza University of Rome » *Thesis:* Lexical-semantic autocompleter based on BabelNet » *Thesis advisor:* prof. Roberto Navigli » *Final grade:* 110/110 cum laude
2010 – 2015	**Diploma di Liceo Scientifico** L.S.S. Antonio Labriola » *Final grade:* 100/100 cum laude

EXPERIENCE

2018	**Development of a lexical-semantic autocompleter based on BabelNet** BabelScape Srl » Design and implementation of a lexical-semantic search box autocompleter based on BabelNet, a large multilingual knowledge graph » *Development tools:* Java, Apache Lucene, RocksDB
2017	**Development of a pattern based entity extractor** BabelScape Srl » Design and implementation of a lexical analyzer to extract pattern based entities from textual documents » *Development tools:* Java, JFlex

PUBLICATIONS

2024	Antonio D'Orazio, **Davide Sforza**, Fabio Pellacini, and Iacopo Masi. Environment Maps Editing using Inverse Rendering and Adversarial Implicit Functions. In *Smart Tools and Applications in Graphics - Eurographics Italian Chapter Conference*. 2024. DOI: 10.2312/stag.20241339.
2023	Eduardo Rinaldi, **Davide Sforza**, and Fabio Pellacini. NodeGit: Diffing and Merging Node Graphs. In *ACM Transactions on Graphics*. 2023. DOI: 10.1145/3618343.

2023   **Davide Sforza** and Fabio Pellacini. Numerical approximations for energy preserving microfacet models. In *Computers & Graphics*. 2023. DOI: 10.1016/j.cag.2023.05.0125.

2022   **Davide Sforza** and Fabio Pellacini. Enforcing Energy Preservation in Microfacet Models. In *Smart Tools and Applications in Graphics - Eurographics Italian Chapter Conference*. 2022. DOI: 10.2312/stag.20221258.

2022   Marzia Riso, **Davide Sforza**, and Fabio Pellacini. pOp: Parameter Optimization of Differentiable Vector Patterns. In *Computer Graphics Forum*. 2022. DOI: 10.1111/cgf.14595.

2020   Maria De Marsico, Emanuele Panizzi, Francesca Romana Mattei, Antonio Musolino, Manuel Prandini, Marzia Riso, and **Davide Sforza**. Virtual bowling: launch as you all were there! In *Proceedings of the International Conference on Advanced Visual Interfaces*. 2020. DOI: 10.1145/3399715.3399848.

PROJECTS

2020   ## Yocto/Hair
github.com/dsforza96/yocto-hair
- » Developement of a tiny path tracer extension to shade realistic-looking hair
- » *Development tools:* C++, Yocto/GL

2020   ## AtA-gpu
github.com/dsforza96/AtA-gpu
- » A Strassen-based CUDA implementation of AtA matrix multiplication
- » *Development tools:* C++, cuBLAS

2020   ## Next!
github.com/antoniomuso/Next
- » Development of multi-modal tool that enables the user to use both gestures and voice commands to remote control presentations
- » *Development tools:* C#

2020   ## The Visual Microphone
github.com/dsforza96/visual-mic
- » A Python implementation of MIT's Visual Microphone, a tool to passively recover sound from video
- » *Development tools:* Python, SciPy, OpenCV

2019   ## Boowling-VR
github.com/antoniomuso/Bowling-VR
- » Development of an online multiplayer bowling game in virtual reality. Validation of the user experience via the SUXES questionnaire
- » *Development tools:* Unity, SteamVR, Blender

2018   Generating Trees with a Space Colonization Algorithm
            github.com/dsforza96/tree-gen
            » Development of a procedural tree generator based on a space colonization algorithm
            » *Development tools:* C++, Voro++, Yocto/GL

TECHNICAL SKILLS

» *Programming:* Python, C/C++, Java, MATLAB, Unity

» *Frameworks:* OpenGL, CUDA, PyTorch, OpenCV

» *Certifications:* Microsoft Technology Associate in Database Administration Fundamentals (issued on 05/28/2014) and HTML5 Application Development Fundamentals (issued on 06/10/2014).

LANGUAGES

» *Italian:* mother tongue

» *English:* level C1 of CEFR