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

CURRENT PROJECTS

In progress	**Rendering with Neural Lenses**

PUBLICATIONS

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.
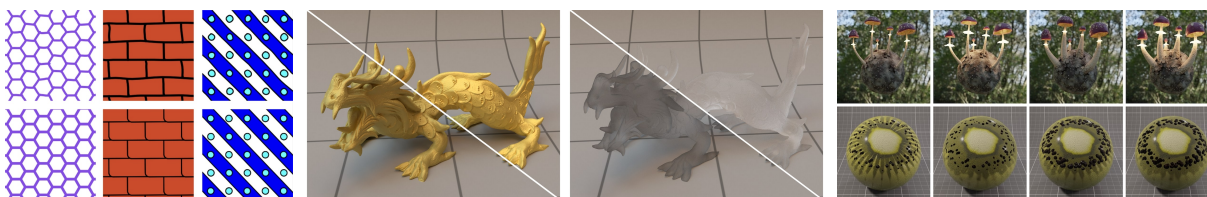
PROJECTS

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, PyTorch, OpenCV, cuBLAS
- » *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