

Davide Sforza

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PROFILE

Ph.D. Student in Computer Science at Sapienza University of Rome

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 Technology
- 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

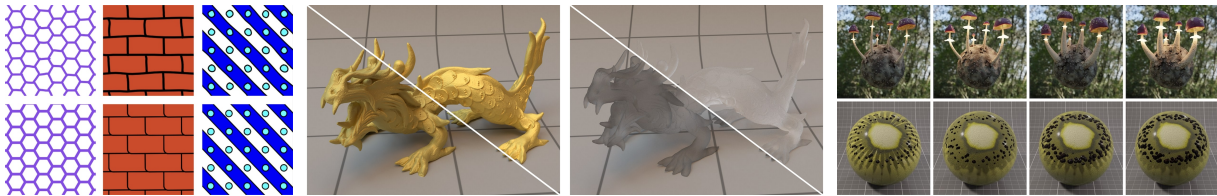
EXPERIENCE

- 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
 » Development 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

Providing an AI for the Game of Tresette

github.com/max-96/Tresette-AI

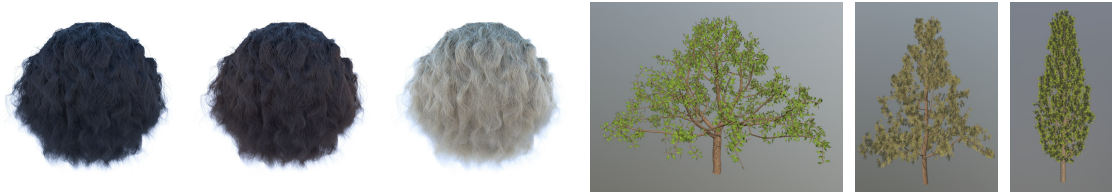
- » Development of an AI for the game of tresette based on Alpha-Beta and Monte Carlo Tree Search with determinization
- » *Development tools:* Java, libGDX

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