

Emilie Nogué

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RESEARCH INTERESTS

Realistic computer graphics, appearance modeling, polarization, wave optical effects.

EDUCATION

Imperial College London - Realistic Graphics and Imaging Group

London, UK

PhD candidate, Data-Driven Wave-Optical Material Appearance Modeling and Rendering

Dec 2020 – 2024

- Researching wave-optical appearance models and effects in materials setup design
- Investigation of novel learning-based approaches for estimating detailed wave-optical parameters of material appearance from sparse observations
- Development of complementary neural-rendering approaches that could be implemented for efficient rendering of complex wave-optical effects for interactive visualization applications.

Institut d'Optique Graduate School

Palaiseau, France

French Engineering Diploma (Master's Degree)

Sept 2017 – Oct 2020

- Photonics, Optics and Engineering - 135 hours of Experimental Practice in Optics : linear and non-linear optics, electromagnetism, quantum mechanics and optics, radiometry, photometry, colorimetry, lasers, physics of sensors
- As of 2nd year, specialization in Computing at Institut Optique d'Aquitaine, Bordeaux : image processing, numerical techniques, algorithmics and object-oriented programming, GPU programming, image synthesis, geometry modeling and display technologies
- FIE (2017-2020) – Innovation and Entrepreneurship Track - 500 hours of supplementary work.

CPGE Lycée Joffre

Montpellier, France

Preparatory Classes for « Grandes Ecoles »

Sept 2014 – June 2017

- Mathematics, Physics and Engineering Science track
- Intensive three-year curriculum preparing for the competitive entrance examinations to the French 'Grandes Écoles' (highly-selective French educational institutions). One of the highest courseloads in Europe with up to 45 contact hours a week and 10 hours of guided tutorials and oral exam sessions.

Lycée Le Caousou

Toulouse, France

Baccalaureate - European Section English / French

2014

- Science Track.

EXPERIENCE

Research Internship, Adobe

Paris, France

Research Intern

Feb 2024 – July 2024

Research Secondment, EPFL

Lausanne, Switzerland

Visiting Researcher

June 2023 – Sep 2023

- Bidirectional Texture Function acquisition in the Realistic Graphics Lab.

Research Secondment, Charles University

Prague, Czech Republic

Visiting Researcher

March 2022 – July 2022

- Exploration of modeling of wave-optical effects such as fluorescence
- Enhancement of spectral measurements.

EARLY STAGE RESEARCHER, PRIME ITN

London, UK

PhD fellow in Predictive Rendering

Dec 2020 – 2024

- Marie Skłodowska-Curie H2021-ITN PRIME Research Network, European Commission.

ONERA, the French Aerospace Lab

Toulouse, France

Intern

Feb 2020 – July 2020

- Brainstormed and iterated measurement setups for LiDAR acquisition
- Programmed in C++ for the automatic processing of 3D LiDAR signal on Ubuntu and Mac
- Assisted inplane acquisition of LiDAR signals
- Processed large databases of point clouds from an acquisition campaign
- Coordinated and oversaw ground acquisition of LiDAR signal with real time signal processing

FittingBox

Toulouse, France

Intern

May 2019 – Aug 2019

- Conducted real-time testing of ocular measurements
- Converted Matlab experimental program to C++ architecture for commercialisation purposes
- Designed C++ algorithms for augmented reality
- Carried out market intelligence on competitive technologies
- Project management.

University of Victoria

Victoria, BC, Canada

Intern Research Assistant

June 2018 – Aug 2018

- Experimented use of optical tweezers for molecular analysis relating to the detection and quantification of protein-DNA interactions in the fight against genetic diseases
- Developed a Matlab setup interface for signal processing
- Observed nanoplasmonic effects on DNA
- Operated optical tweezers to align laser and capture DNA.

ENTREPRENEURSHIP

Lumirithmic

2021-2024

Developer and researcher for an Imperial College spin-out company. Lumirithmic is a deep tech startup focuses on graphics/vision/ML.

Asp9ct

2018-2020

Market research and development of a physics-based software for modeling and rendering of nanostructured surfaces. Conducted in partnership with researchers at LP2N (Bordeaux) and IOA professors: R. Pacanowski, K. Vynck and P. Lalanne.

SecureLight

2017-2018

First start-up project: development of a laser-based device to improve visibility and security of cyclists under poor lighting conditions.

ACADEMIC ACTIVITIES

Reviewer for SIGGRAPH, SIGGRAPH Asia and Transactions on Graphics (TOG).

ASSOCIATIONS AND COMMITTEES

Equality Diversity and Culture Committee

Imperial College London, London, UK

PhD Representative

February 2021 — now

Working on the acquisition of grant for European Researchers Night at Imperial.

Working on the creation of EDI workshops for PhD cohorts outside of Imperial.

Camp Thunderbird, YMCA

Victoria, BC, Canada

Program Assistant

June 2013 — August 2013

Took care of children between the ages of 5 and 11

Developed and running activities such as arts and crafts, kayaking, canoeing, mass games, archery

Helped to supervise overnight backpacking out trips

OTHER SKILLS

Computer: Matlab, Python, C/C++, Shell scripting, Mitsuba2, Mitsuba3, pbrt, OpenGL, Git, VS Code, PointCloud Library, Blender, Unity, OpenCV, Excel, LaTeX

Spoken Languages: French(Native), English(Fluent C2), Spanish(C1), Italian(Basic), Czech(Beginner), Ancient Greek (Basic)

Certifications:English language certification: TOEIC, IELTS, Cambridge English: Advanced; PSE1 (French First-Aid Certification)

Interests:Reading,Running, Hiking, Photography, Aerial Circus.