

GONG, Xianjin

Laboratoire d'Informatique de l'École polytechnique

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Palaiseau, France

EDUCATION BACKGROUND

PhD in Computer Graphics/Animation

Laboratoire d'Informatique de l'École polytechnique 2024.10 – 2027.9(expected) Palaiseau, France

- Topic: Editing 3D Keyframed Animation via Gesture & Vocal Inputs
- Supervisors: Damien Rohmer, Vicky Kalogeiton

Master of Interaction, Graphics and Design

Institut Polytechnique de Paris 2022.9 – 2024.10 Palaiseau, France

- M2 GPA: 4.0/4.0; M1 GPA: 4.0/4.0

BSc Honor Physics and BSc Computer Science

Hong Kong University of Science and Technology 2017.9 – 2021.12 Hong Kong SAR, China

- CGA: 3.65/4.3; English Language Proficiency Test: TOEFL Score: 105
- First Prize in Guizhou Provincial Physics Olympiad Competition in 2016

RESEARCH EXPERIENCE

Animated coherent groups of virtual animals in 3D natural environment

2024.4 – 2024.9 Institut Polytechnique de Paris

Keyword: *Boids, Crowd simulation, C++, Unity*

- A framework for robustly extracting microscopic herd behaviours from short video clips.
- A microscopic herd model supporting differentiable optimization.
- Support for authoring new herd animations based on leader-follower dynamics.

Multi-layer Shape Untangling with Implicit Surfaces

2023.3 – 2023.10 Institut Polytechnique de Paris

Keyword: *Mesh geometry models, Volumetric models, OpenGL, C++*

- A simplification-aware untangling algorithm for 2D layered shapes stacked on each other.
- Result of this project published on IMET 2023.

Variational Quantum Eigensolver & Quantum Imaginary Time Evolution by QDrift

2021.7 – 2022.8 Hong Kong University of Science and Technology

Keyword: *Physics, Quantum Computer, Simulation, Python, IBMQ*

- Compare variational eigen-solver and QDrift algorithm in the context of model simulation in quantum computers.

PUBLICATION

PEER REVIEW

COLLISION FREE SIMPLIFICATION FOR 2D MULTI-LAYERED SHAPES

Xianjin Gong, Amal Dev Parakkat, and Damien Rohmer

IMET (International Conference on Interactive Media, Smart Systems and Emerging Technologies), 2023

HERDS FROM VIDEO: LEARNING A MICROSCOPIC HERD MODEL FROM MACROSCOPIC MOTION DATA

Xianjin Gong, James Gain, Damien Rohmer, Sixtine Lyonnet, Julien Pettré, and Marie-Paule Cani

CGF (Computer Graphics Forum), referred with major revision, 2025

COMMUNICATION

OPTIMIZING MULTI-AGENT HERD MODEL FROM A SINGLE VIDEO

Xianjin Gong, James Gain, Damien Rohmer, Julien Pettré, and Marie-Paule Cani

JFIG (Les journées Françaises de l'Informatique Graphique), 2024

Award: Best Paper Honorable mention

TEACHING EXPERIENCE

TEACHING ASSISTANT

- CSC_1S004_EP: Web Programming – BX1, 2025
- CSC_3S006_EP: Computer Graphics – BX3, 2025
- CSC_43042_EP: Algorithmes pour l'analyse de données en Python – X2A, 2025
- CSC_51085_EP: Computer Animation – X3A, 2024
- CSC_52087_EP: Advanced Deep Learning – X3A, 2025

FORMATIONS

TRANSVERSES

- The fundamentals of management (14 hours)
 - Scientific research ethics (6 hours)
 - Which career opportunities after a PhD (7 hours)
 - Teaching: how to develop student's motivation (21 hours)
 - Complementary teaching activity (10 hours registered for 64 hours of teaching)
- 58 hours finished for “formations transverses” (40 to 60 hours required)**

SCIENTIFIQUES

- Welcome Day of the Doctoral Schools of IP Paris 2024-2025 (3 hours)
- 3 hour finished for “formations scientifiques” (40 to 60 hours required)**

PLANNING

- Etudier en France : français intermédiaire B1/B2 (20 hours)
- Mathematical modeling of quantum computers (36 hours)

56 hours planned

Total: 61 hours finished, 56 hours planned (100 hours required)