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Noel Hocquet

SENIOR 3D ARTIST

*Synthetic Data & Digital Twin
Specialist*

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EDUCATION

Master's Degree in Computer Graphics

SupInfoCom – Valenciennes, France
1994

Degree in Computer Science

Gaston Berger – Lille, France
1991

Ecole des Beaux Arts

Saint-Omer, France
1982–1986

Master Classes (1998)

Richard Williams (Animation)
Robert Bennett (Acting)

PROFESSIONAL SUMMARY

With over 30 years of experience in high-fidelity computer graphics, I bridge the gap between cinematic artistry and cutting-edge computer vision/machine learning. My career is defined by two distinct chapters: 22 years in elite VFX/AAA Games, followed by a decade pioneering 3D Synthetic Data and Digital Twin for the world's leading tech companies (Magic Leap, Apple, Humane). I specialize in creating physically accurate virtual replicas to train Computer Vision algorithms and delivering scalable ground truth datasets that solve complex edge cases.

EXPERIENCE: SYNTHETIC DATA & SPATIAL COMPUTING (2016 – PRESENT)

Lead 3D Synthetic Data

Nov 2022 – Feb 2025

Engineer

HUMANE INC | SAN FRANCISCO, CA

- **Pipeline Architecture:** Architected a procedural generation system in Unreal Engine using advanced Blueprints to automate randomized hand/arm animations, trajectories, and keyposes for Metahumans, significantly increasing data variety for CV training.
- **Ground Truth Engineering:** Engineered automated annotation tools to output precise frame-by-frame metadata (bone transforms, camera intrinsics/extrinsics, depth maps), ensuring pixel-perfect labels for ML models.
- **Multi-Sensor Simulation:** Generated massive-scale datasets (300K+ sequences) simulating multi-modal sensor inputs (Linear Depth, Semantic Segmentation, Infrared) to train robust hand-tracking algorithms.
- **Motion Capture R&D:** Spearheaded R&D for upper-body mocap systems (Optitrack/Vicon/Qualisys) and utilized Manus Quantum Metagloves to capture high-fidelity human motion data.

TECHNICAL SKILLS

3D TOOLS

Maya, 3ds Max, Unreal Engine, Substance, ZBrush, V-Ray, Renderman, Mental Ray

2D TOOLS

Photoshop, After Effects, Nuke, Illustrator, Premiere

SCRIPTING & PIPELINE

Unreal Blueprints, MEL, MaxScript, Perforce (P4V)

AI-ASSISTED DEVELOPMENT

Python (via Gemini & Claude), Antigravity, LLM Workflows

MOTION CAPTURE

Manus Core, OptiTrack, Vicon, Qualisys

ADDITIONAL TOOLS

ComfyUI, TouchDesigner, AWS Portal, Connecter, Deadline

SELECTED PROJECTS

FEATURE FILMS

Pacific Rim, Star Trek Into Darkness, Iron Man 2, Harry Potter & the Half-Blood Prince, Hellboy 2, Chronicles of Narnia: Prince Caspian, Megamind, Monsters vs. Aliens, United 93, Silent Hill, Battleship, Angels & Demons, Green Zone, Revolver, Arthur and the Invisibles, The Magic Roundabout

VIDEO GAMES

Star Wars Battlefront, Battlefield Hardline, Star Wars (Ragtag), Harry Potter (EA)

PROFESSIONAL ASSOCIATIONS

Visual Effects Society (VES)

ASIFA-Hollywood

ACM SIGGRAPH

3D Synthetic Data Engineer &

Jan 2018 – Oct 2022

Senior 3D Artist

APPLE INC | SUNNYVALE, CA

- **Custom Tool Development:** Developed proprietary real-time tools and custom Blueprints in Unreal Engine to query datasets and automate ground truth data generation for CV teams.
- **Data Strategy:** Collaborated with ML engineers to analyze model performance and optimize 3D datasets based on training results, closing the loop between simulation and algorithm accuracy.
- **Virtual Production Lead:** Served as Directly Responsible Individual (DRI) for the Virtual Production LED Stage, managing technical setups between physical production and digital environments.
- **Mentorship:** Mentored the 3D team on pipeline development and prototyping, establishing best practices for transitioning assets from POC to Mass Production.

Senior Technical Artist

Aug 2016 – Dec 2017

MAGIC LEAP | SUNNYVALE, CA

- **Cloud-Based Simulation:** Developed and deployed real-time 3D solutions in Unreal Engine to stream synthetic training data directly to cloud platforms for scalable model training.
- **Deep Learning Support:** Partnered with Deep Learning teams to define and create specific 3D datasets for AR/VR perception, iterating on environmental parameters to improve detection rates.

EXPERIENCE: VFX & AAA GAMES (1994 – 2016)

Senior VFX Artist

Sep 2013 – May 2016

ELECTRONIC ARTS / VISCERAL GAMES | REDWOOD CITY, CA

Projects: *Star Wars Battlefront, Battlefield Hardline, Star Wars (Ragtag)*

- Created real-time particle simulations and sprite optimizations for Gen3/Gen4 consoles and PC, balancing cinematic fidelity with performance constraints.

HONORS & AWARDS

Escape Award 2008

Best CG in Commercials (Ford Flexifuel)

Réseau Entreprendre Award

Entrepreneurship (2001)

Lille Metropole Initiative Award

Innovation (2001)

French National Contest

Most Innovative Company (2001)

Prix Pixel-INA IMAGINA

Nominee (1995)

Senior FX Technical Director

Sep 2011 – Mar 2013

INDUSTRIAL LIGHT & MAGIC (ILM) | SAN FRANCISCO, CA

Projects: *Pacific Rim, Star Trek Into Darkness, Battleship*

- Executed complex fluid and particle simulations (water, smoke, destruction) utilizing proprietary solvers (ILM Zeno/Plume) for blockbuster feature films.

Senior Lighting Technical

Dec 2009 – May 2011

Director

DREAMWORKS ANIMATION / PDI | REDWOOD CITY, CA

Projects: *Megamind, Monsters vs. Aliens*

- Managed realistic lighting setups on characters and environments using Global Illumination and AO techniques.

Senior Generalist Technical

Mar 2008 – Nov 2009

Director

DOUBLE NEGATIVE | LONDON, UK

Projects: *Iron Man 2, Harry Potter and the Half-Blood Prince, Hellboy 2*

- Responsible for full-pipeline environment creation (modeling, lookdev, lighting) for high-profile assets including digital replicas of Monaco, Vatican City, and Baghdad.

PRIOR EXPERIENCE SUMMARY

Framestore CFC (London): Lighting TD – *Chronicles of Narnia: Prince Caspian* (2007–2008)

The Mill / Glassworks (London): Senior 3D Artist – Commercials for Audi, Ford (2006–2007)

Buf Compagnie (Paris): VFX Artist – *Harry Potter (EA), Silent Hill, United 93* (2005–2006)

Action Synthese / Wip:On / ... (France): Supervisor, Founder, & Animator roles (1994–2004)