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Short resume, updated on 9/2025.
A detailed list of projects and technical achievements is available upon request.

Highlights of 20 years: I led and built teams and their practices. Shipped a dozen "AAA" videogames, advancing the state of the art of real-time rendering with novel techniques. Worked in startups, big corporations and independent studios. Mentored, presented novel techniques, organized conferences, wrote papers and books.

I realized what I'm best at is **solving hard problems that require innovation:** helping teams navigate uncharted territories. I believe the hardest problems are ones that marry people, products, and technology - beyond "academic" novelty.

My main field of application is **Computer Graphics:** from its **theory to low-level GPU hardware optimization.** My wider interests in computer science allow me to bring a multi-disciplinary approach to problem solving.

I wore many hats in my career: from production **engineering, to research, to management.** I like hands-on programming while at the same time leading groups big enough to tackle significant problems.

I take a humanistic approach to technology: innovation is valuable only as it delivers value to people, either externally (customers) or internally (workflows). I'm allergic to hype cycles and cargo-cult engineering.

~ ~ EXPERIENCE ~ ~

Senior Technical Director, Activision/Blizzard (2013-2019): my last stint in AAA gaming. I was part the "central technology group", helping multiple studios work better together, focusing on graphics research across products, and maintaining the company's external relationships (first-party, third-party, academia).

I developed novel solutions related to physically based rendering, machine learning, digital 3d scanning, tone-mapping, volumetric effects, precomputed global illumination, ambient occlusion (GTAO), automated material quality insurance, dynamic resolution and asset compression. I'm credited on seven Call of Duty titles.

In 2019 I joined Roblox (then, a startup) as **Director of Engineering** to build their graphics group; I wanted to find a novel challenge, leveraging my expertise in a new field: Roblox is a "long-term" platform, quite different from the deadline-driven, risk-averse world of AAA games.

I grew the team from three engineers to three teams with twenty engineers, plus technical art, automation, and product resources. I helped the company establish many of the practices we still use today, from hiring standards to product and project guidelines.

Under my tenure the team shipped numerous new product features: moving to PBR, forward+ (including on mobile) and dynamic probes, added UGC materials, server-side material processing, a new atmosphere system with dynamic clouds, wind, grass, better effects, depth of field, AO, better content moderation, testing and profiling in production - all towards the company goals of "aging up" and increasing scalability and immersion.

I also helped to define the long-term vision for the group (as a platform for creatives, leading one of the major engine groups also entailed product design) and led several cross-team year-long strategic initiatives.

In 2022 I moved to the wider "Digital Matter" group (rendering, physics, geometry, and interactivity) and as **Senior Technical Director,** to help Roblox navigate architectural changes needed for the next decades of scale.

Before Activision I worked for: **Milestone** (2006-2007), **Electronic Arts** (2007-2010), **Relic** (2010-2012), **Capcom** (2012-2013, after a consulting contract back at Electronic Arts). Before gaming, I worked briefly in industrial automation.

~ ~ SKILLS ~ ~

In all the companies I worked with I have delivered **significant R&D work,** some of which has been presented in various venues and publications (among others: Siggraph, GDC, Digital Dragons, ShaderX).

My **other fields of technical expertise** are: **machine learning** and numerical algorithms, **programming languages,** algorithms and data structures, **data visualization,** computational geometry, **animation,** and **low-level performance optimization.**

I'm passionate about **building strong teams** via mentoring, knowledge-sharing, clear career guidance and helping to recruit the best possible people.
Working in **game production** taught me the importance of risk mitigation and prototyping to be able to navigate uncertainties under tight deadlines, and the importance of people and workflows.

As a programmer I've worked both on 3d engine development (especially for consoles) and as a graphics specialist, focusing on visuals and workflows. I consider myself strongest in the latter: I thrive in the collaboration between **creativity and technology.**

Outside my professional obligations, I contribute to my field by helping our **community.**

I'm one of the authors of the fourth edition of **"Real-Time Rendering",** I helped Andrew Glassner with his **"Deep Learning: From Basics to Practice"** book and I am an editor for the "Journal of Computer Graphic Tool" and of "Ray Tracing Gems II".

I served as general and paper chair for the ACM I3D Symposium, helped on the advisory board for graphics vendors (Intel, Microsoft), and co-founded the **"Rendering Architecture Engine Conference".** For a few years I also took a teaching position at the Vancouver Film School and I sometimes write, mostly about computer graphics, on c0de517e.com.

I have been a keynote speaker for HPG and Intel.

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I graduated with a master's in Computer Science, honors cum laude from the University of Salerno (2005), and entered their Ph.D. program.

I was a demoscener in my youth and still enjoy computer arts, digital fabrication, and photography.