ANDREA TEDESCHI

Technical Director | Systems Architect

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PROFESSIONAL SUMMARY

Technical Director and systems architect with 12+ years across games, real-time production and VFX, including 7 years building Unreal Engine tools, plugins, gameplay systems and rendering infrastructure in C++ and Python. Cinematics Technical Lead on Dune: Awakening and Technical Director on the Mutant Year Zero animated feature, with work for the BBC and Fremantle, three Epic MegaGrants and indie titles.

Creator of RenderDeck, a distributed render-management platform, and Trainlink.eu, a full-stack European rail planner running on self-managed cloud infrastructure. Hands-on with agentic development, including custom subagent flows, MCP servers and CLI tools. Experienced in leading multidisciplinary teams and owning systems from architecture through to delivery.

KEY SKILLS

- **Languages:** Python, C++, C#, TypeScript, JavaScript, Java, Verse.
- **Unreal Engine:** C++ and Python editor plugins, Gameplay Ability System, Game Features, World Partition, Movie Render Queue, UEFN.
- **Unity:** C#, Unity 6, 2D URP, uGUI, mobile game development.
- **Tools & Pipelines:** Tool ideation and rapid prototyping, desktop and web tools, data validation, end-to-end pipeline, MCP & CLI tools.
- **Web & Backend:** Next.js, React, Python, FastAPI, REST APIs, Postgres & SQL, MapLibre GL JS, job queues, worker orchestration.
- **AI Development:** Claude Code, Codex, custom subagents, MCP servers, CLI tools.
- **Infrastructure:** Docker, Caddy, Cloudflare, Oracle Cloud, DigitalOcean, AWS, Coolify, Vercel, Neon, Perforce, Git, Linux/Unix, Windows.
- **Engineering Practice:** Software architecture, design patterns, debugging, documentation, mentoring, Agile delivery.

SELECTED PROJECTS

RenderDeck | Distributed Render Management System for Unreal Engine

- ***Project: renderdeck (DigitalOcean VM)***
- Designed and developed a self-contained render-management platform for distributing cinematic rendering across multiple worker machines in ACES-compliant productions, reducing reliance on Deadline and other third-party systems through custom in-house functionality tailored to production needs.
- Built the system around Python, FastAPI, REST APIs and a browser-based production interface, with queue scheduling, worker assignment, job prioritisation and production monitoring.
- Implemented automated dispatch, live frame progress, failure detection/recovery, job re-queuing and worker CPU/RAM/GPU reporting.
- Integrated Unreal Engine rendering through Movie Render Queue, command-line workers and in-engine Python, with support for production path mapping and Perforce-based workflows.
- Developed artist-facing workflows for shot submission, queue management, reporting and version-aware rendering, reducing the technical overhead of distributed rendering.

Trainlink.eu | European Rail Explorer & Journey Planner

- ***Project: trainlink.eu (Oracle VM)***
- Designed and developed a web-first European rail planner with a map-first trip builder, multi-stop journeys, route alternatives, saved plans and editorial travel content.
- Built a pnpm/Turborepo TypeScript monorepo using Next.js, React and MapLibre GL JS, with journey logic kept in standalone packages separate from the UI.
- Developed a Python feed pipeline turning publisher timetable archives into validated artifacts, station bindings, city routing data and a published rail snapshot, routed through a self-hosted MOTIS timetable engine.
- Deployed to production on an Oracle Cloud VM with Docker, Coolify and Caddy, using Cloudflare DNS and R2, Neon Postgres and Auth, a token-protected routing gateway and blue/green timetable releases.

Uno, Due, Tre | Mobile Card Game | Coming Soon on iOS

- Designed and developed a 1-2-3 solitaire game based on Italian tradition, played with a 40-card Italian deck and extended with a Risk mode, five-stage progression and an upgrade shop.
- Built in Unity 6 and C# with 2D URP and uGUI, separating game rules from presenters and prefab-driven views, with an automated EditMode test suite covering rules, navigation and persistence.

AI DEVELOPMENT

- **Agent Workflows:** Custom subagent flows that divide complex work across specialised agents.
- **Context & Tool Management:** Custom tools for managing what context and tools each agent receives.
- **MCP:** Use and development of MCP servers that connect agents to custom tools.
- **CLIs:** Use and development of command-line tools for agent-driven workflows.

PROFESSIONAL EXPERIENCE

Technical Lead | Beyond The Pixels | London, UK | Jan 2026 – Present

- Lead technology development and technical direction for games and interactive content.
- Drive architecture, tools and production technology decisions across development.
- **Shipped Title:** Astro Burn (Steam, GOG).

Technical Director | Atelier11 | London, UK | Jul 2025 – Dec 2025

- Led development of artist-focused real-time workflows and agile pipeline processes for film, animation and interactive projects.
- Developed and supported technical workflows intended to reduce production friction and enable artists to work more independently.
- Collaborated across creative and technical disciplines to establish practical tools and production processes.

Technical Director | HAZIMATION | London, UK | Dec 2020 – Jun 2025

- Led technical strategy, systems, tools and pipeline development across real-time cinematics, animated film and interactive production.
- Architected and maintained production systems for asset management, validation, Perforce version control, rendering, automation and performance optimisation.
- Developed tools and frameworks enabling artists and designers to perform complex production tasks independently, reducing repetitive work and engineering dependencies.
- Managed and mentored multidisciplinary technical teams while establishing documentation, development standards and production best practices.
- Worked directly with artists, supervisors and production teams to identify workflow bottlenecks and translate production requirements into technical solutions.
- Developed and deployed an internal distributed render-farm solution with an integrated web interface, which subsequently informed the development of RenderDeck.
- Promoted a "build once, use anywhere" philosophy through frameworks that let artists and designers prototype and test independently.
- Directed technical development for multiple vertical-slice gameplay prototypes and Unreal Editor for Fortnite (UEFN) experiences for clients and internal IPs.
- Designed gameplay frameworks and plugins for Co-op, Gameplay Ability System, Game Features, World Partition, interaction systems and more.

NOTABLE PROJECTS

Dune: Awakening | Funcom | Cinematics Technical Lead

- Led technical efforts for HAZIMATION's cinematic division, supporting large-scale Unreal Engine cinematics within a collaborative production environment.
- Provided technical guidance and tools for cinematics performance, asset integration and overdraw management, helping the team meet visual and performance targets.
- Developed and supported workflows around asset integration, rendering, performance and production troubleshooting.
- Worked across disciplines to resolve technical production issues, minimise conflicts and maintain development guidelines.

Mutant Year Zero | Heroic Signatures / Funcom | Technical Director

- Led technical direction and pipeline development for the animated feature adaptation, covering real-time rendering, editor tools, asset workflows and custom render-farm infrastructure.
- Built automated tools and validators for Sequencer, Movie Render Queue and asset compliance.
- Defined performance targets and technical requirements for 4K EXR / ACES delivery and documented optimisation standards across textures, geometry, characters, grooms, animation and lighting.

BBC Galaxy Dance Eurovision Short | BBC | Technical Lead

- Developed Unreal-based production pipelines combining live-action/green-screen footage with real-time environments and digital twins.

Max Beyond | HAZIMATION | CG Supervisor & Technical Director

- Helped pioneer the production pipeline for an animated feature produced entirely in Unreal Engine.
- Contributed technical direction, rendering workflows and production systems to a project that received an Epic MegaGrant.

BBC – The Rap Game UK | BBC / Fremantle | UEFN Technical Director

- Developed Verse systems that switched between three distinct worlds based on live rap battle outcomes, using World Partition to work within Epic's memory constraints.

Gameplay Prototypes | HAZIMATION | Technical Director

- Implemented full gameplay systems and progression logic using modular subsystems in C++ and Blueprints for Action/Adventure, Co-op, Shooter and Narrative Puzzle vertical slices.

Unreal Engine Generalist | HAZIMATION | London, UK | Sep 2019 – Dec 2020

- Contributed to games, films and cinematic development, environment building, asset creation and optimisation using Unreal Engine and UEFN.

Moontopia | HAZIMATION | UEFN Developer

- Implemented all core Verse logic, combat systems and quests for a UEFN experience, helping to secure an Epic MegaGrant.

Max Beyond | HAZIMATION | UEFN Developer

- Developed top-down gameplay in Verse as a promotional tie-in to the real-time animated film.

Valara | Unreal Generalist

- Created and optimised high-quality environments and CG assets for the animated segment of the Valara anthology series.

VISUAL EFFECTS EXPERIENCE

Visual Effects Compositor & Supervisor | London, UK | Feb 2014 – Sep 2019

IMDb: LINK

Worked across feature films, television and short-form productions as a VFX Compositor and Supervisor, providing a strong foundation in artist workflows, shot production, review processes and the day-to-day technical requirements of VFX teams.

- **Compositing, Matte Painting & 3D:** Christmas at Graceland, Satori, 2036 Origin Unknown, The Beyond, Podsnappery, Green Sweater Guy, SYNC.
- **VFX Supervision:** Cognition, Rain Catcher, Once Upon a Time at Christmas.
- Worked with Nuke and 3D/VFX workflows across production environments, bridging creative requirements with technical problem-solving.

EDUCATION

Escape Studios | VFX Compositing in Nuke | London, UK | 2013 – 2014

AWARDS & HONOURS

- Epic MegaGrant Recipient | Max Beyond Feature Film – Unreal Engine Pipeline
- Epic MegaGrant Recipient | Max Beyond Interactive Experience
- Epic MegaGrant Recipient | Moontopia Interactive Experience
- Winner – Best Visual Effects | Cognition
- Awarded at 20+ international film festivals, including British Short Film Festival, Paris Short Film Awards, Rome International Movie Awards and Tokyo International Monthly Film Festival.