

Real-time	Unreal, Houdini, TouchDesigner, GLSL	Control	Python/FastAPI, OSC, robotics, sensors	Pipeline	3D tooling, shader systems, automation	Deploy	Show control, observability, on-site install
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Summary

Creative Technologist building production systems for real-time graphics, interactive installations, and robotic performance. Currently at Volvox Labs, authoring [Motion-Core](#), a Python motion-control platform for cobot-driven installations, and developing computer-vision, show-control, and observability pipelines for permanent spatial experiences. Depth across Unreal Engine, Houdini, TouchDesigner, custom shaders, Python tooling, and on-site deployment.

Experience2021 to present · Beijing to New York

2019 Beijing to NYC BFA at Renmin University (First Prize thesis); moved to the US for graduate study in computer arts.	2021 Research & first studio work Technical 3D for Harvard CAMLab's <i>Digital Temple</i> ; internship at Volvox Labs; MFA at SVA.	2024 Creative Technologist, Volvox Full-time role shipping real-time systems for Intuit/TurboTax, Adobe, Cadillac, 23Springs, and the Astral Twin robotic commission.
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Astral Twin / Motion-Core · Robotic audiovisual installationMAJOR DEVELOPER

ROLE	Multi-arm robotic installation where choreography and generative visuals respond to each other in real time. Major Developer, Robotics & Visual Systems, focused on the control software and generative visual system.
ACTIONS	Authored Motion-Core , a Python/FastAPI platform driving multiple 6-DoF uFactory cobots from a web operator interface. Integrated GPU-accelerated IK (cuRobo) and MPPI model-predictive control with physics simulation for 50 Hz collision-safe Cartesian control; built trajectory playback, multi-robot coordination, and choreographed playlists with quintic transition profiles.
IMPACT	Core software layer of the installation: collision-safe multi-arm choreography at 50 Hz, supporting both live-performance control and pre-planned show playback. The generative visual system driven by robot motion is also mine.

Adobe “Primrose” · 3D visualization pipelineMAJOR DEVELOPER

ROLE	Proprietary 3D visualization pipeline for Adobe's Project Primrose, a PDLIC interactive-textile technology. Built the tool Adobe's R&D team uses for rapid prototyping of reflective-pattern designs.
ACTIONS	Architected the custom 3D visualization pipeline; wrote GLSL shaders matching Adobe's material model; built editor-side tooling so designers could iterate on pattern studies without engineers in the loop. Parallel studio delivery: Sphere Las Vegas 16K content (Deloitte), 23Springs permanent lobby installation, US Open × Cadillac.
IMPACT	Tool adopted by Adobe's R&D team for ongoing material development. Technology debuted at Adobe MAX 2023 and New York Fashion Week 2024 (Christian Cowan collaboration); press coverage in Designboom, New Atlas, Sourcing Journal, and Euronews.

Intuit TurboTax Reset Suite · Computer-vision installation systemINTERACTION ENGINEER

ROLE	Interaction engineer for a permanent light and sound installation in TurboTax's first physical flagship retail store in SoHo. Owned the computer-vision pipeline, real-time trigger routing, and observability stack.
ACTIONS	Designed a dual OAK-D / DepthAI occupancy-detection system for five seating zones; built TouchDesigner state-machine routing across occupancy states and scene presets; implemented a Prometheus exporter and Grafana dashboard for live monitoring.
IMPACT	Production system for a flagship retail environment designed with Gensler and BUCK. The installation converts seated visitor presence into layered lighting and audio behavior while exposing operational telemetry for maintenance and deployment support.

Selected Exhibitions & Awards

2019 to 2026

Work recognized at the international level of the art-technology field. Exhibited at the Victoria & Albert Museum, Ars Electronica Festival, the Shanghai International Film Festival, and saasfee*pavillon. Awards from Ars Electronica, Graphis, and AIXR.

Ars Electronica	<i>Functionless</i> · Campus Exhibition, Linz AT	Honorary Mention · 2024	V&A Museum	<i>Functionless</i> · Digital Design Weekend, London	Header image · 2024
SIFF XR	<i>Journey into Self</i> · Shanghai Int'l Film Festival	Selected · 2024	Graphis	<i>Journey into Self</i> · Poster Annual	Gold · 2026
AIXR XR Awards	<i>Journey into Self</i> · Experimental Story Formats	Accolade · 2025	saasfee*pavillon	<i>20 kg of me w/ Ksti Hu</i> · Frankfurt DE	Exhibited · 2025

Core Skills

REAL-TIME ENGINES	Unreal Engine 5 (C++, Blueprints, Niagara, Material Editor) · Unity HDRP · TouchDesigner (show-control, sensor integration, GLSL).
PROCEDURAL & VFX	Houdini (VEX, simulation, procedural workflows) · shader development in HLSL / GLSL · Nuke, Redshift, Embergen.
PROGRAMMING & TOOLING	Python (FastAPI, asyncio, pipeline tooling) · C++ · C# · JavaScript / TypeScript · Next.js, React, Three.js for operator UIs.
ROBOTICS & CONTROL	6-DoF cobot coordination (uFactory) · GPU-accelerated IK via cuRobo · MPPI model-predictive control at 50 Hz · OSC / MIDI / serial protocols.
PIPELINES & DELIVERY	Git, Perforce (100 GB+ repositories) · asset & version workflows · on-site installation deployment & show-control integration.

Education

School of Visual Arts · MFA, Computer Arts · New York · Alumni Scholarship 2024; thesis to Ars Electronica & V&A.	2022–2024
Renmin University of China · BFA, Environmental Design · Beijing · First Prize, Best Bachelor Thesis.	2015–2019