

Raphael Kim

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Paris, France

M.Sc. Interactive & Industrial Design
M.Sc. Immersive Engineering
M.Sc. Numerical Modelling (VR)
ENS Diploma Mechanical Engineering

Human-Computer Interaction Engineer

profile

Human-Computer Interaction engineer with a background in product design and engineering, and 8+ years exploring how emerging technologies can become useful, intuitive and original experiences. Curious, fast-learning builder who moves from research or an ambiguous idea to tangible prototypes across software, physical computing, voice, real-time 3D and AI. Most interested in discovering new interaction models and turning technical possibilities into meaningful product experiences. Published HCI work and 3 patents as inventor.

approach

- Explore emerging technologies through their potential uses, interactions and product experiences
- Make ideas tangible end-to-end, from interaction framing and product thinking to software, models and physical prototypes
- Learn unfamiliar tools quickly when an idea requires them, from 3D animation and real-time environments to AI models and embedded systems
- Use prototypes as a way to think, communicate and discover what an emerging technology should become

selected explorations

Synapse, self-hosted agentic AI system: orchestrates local LLMs with tools, memory, voice and physical services; explores routing, permissions, context, observability and human-agent interaction through a working system.

Local AI experimentation: self-hosted environment for exploring models, agents, voice and multimodal interaction; used as a hands-on laboratory for understanding emerging AI capabilities and turning them into new experiences.

SPRayCE / Space Spray: MIT Media Lab physical interaction prototype for drawing in mid-air, combining embedded electronics with a real-time 3D environment; published at SIGCHI / Laval Virtual.

work experience

2019 5 years	Snips / Sonos Voice Experience Designer / Technologist • Prototyped voice interaction experiences and contributed to the development of production voice products within real-world latency, reliability and product constraints • Worked across product definition, interaction design and technical prototyping to make emerging capabilities tangible and testable • Designed a child-focused audio prototype combining lyric recognition, ultrasonic positioning, device routing and ESP32 firmware; collaborated with data/API and engineering partners to validate the experience • Explored alternative interaction models for connected audio through hands-on software, device and spatial prototypes	Paris, FRANCE
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2018 2 years	Snips Hacker in Residence • Built around 20 functional prototypes and concept demonstrations exploring voice, post-voice and connected-device interactions • Worked closely with founders and product leadership to translate ambiguous technical ideas into tangible product propositions and prototype-driven decisions • Learned 3ds Max and V-Ray when needed to create product concept visualizations and animations	Paris, FRANCE
2017 1 year	Dailymotion Design Systems Technologist • Built design-system and DesignOps tooling, including interface translation and automated interface population • Explored new product features, interactions and devices through working prototypes at the boundary of design and engineering	Paris, FRANCE
2015 2 years	Joshfire Lead Developer R&D / in charge of innovation • Worked directly with clients from needs discovery and presales through technical recommendation, prototyping and production support • Led emerging-technology projects from ambiguous brief to functional hardware/software demonstrators and deployable systems	Paris, FRANCE

earlier innovation & research

2014 1 year	SAP Labs Innovation Prototyper • Ideated and built a real-time desktop collaboration prototype for screen sharing and meetings; the concept evolved into CoScreen, later acquired by Datadog	Palo Alto, USA
2013 1 year	Saatchi & Saatchi + Duke Creative Technologist • Developed customer-facing technology prototypes for Toyota, Club Med, VISA Premier, Veuve Clicquot and Piaget	Paris, FRANCE
2011	MIT Media Lab, Fluid Interfaces Group Internship • Created SPRayCE, a spatial interaction device for drawing in mid-air; combined interaction design, embedded prototyping and a real-time 3D environment	Cambridge, USA
2010	JRL-AIST / CNRS Internship • Worked on humanoid robotics, developing a non-smooth contact model for fast dynamic computation of poly-articulated bodies; delivered a haptic demonstrator for the European Commission project "ImmerSense"	Tsukuba, JAPAN

patents & publications

- 3 patents as inventor
- SPRayCE / Space Spray: SIGCHI 2012 and Laval Virtual 2012

technical toolkit

- **AI / agents:** Python, LLM integration, agent workflows, tool calling, prompt/context engineering, memory/state, RAG, embeddings and local inference
- **Software / systems:** JavaScript / Node.js, web prototyping, REST APIs, Docker, Linux, networking and rapid technical experimentation
- **Physical / interaction:** ESP32, Arduino, electronics, firmware, BLE / wireless integration, sensors, 3D printing, CAD, Unity3D, VR/AR and haptics
- **Creative tools:** 3ds Max, V-Ray, real-time 3D, interaction design, concept visualization and rapid experience prototyping
- **Languages:** fluent French; professional spoken and written English; native Korean

education

2011-2013, STRATE COLLEGE DESIGNERS: M.Sc. Industrial / Interaction Design, Sèvres, France
2010-2011, ECOLE NATIONALE SUPÉRIEURE DES ARTS ET MÉTIERS: M.Sc. Immersive Engineering; M.Sc. Numerical Modelling in Virtual Reality, Laval, France
2008-2010, ECOLE NORMALE SUPÉRIEURE: Mechanical Engineering diploma, Cachan, France