Raphael Kim

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

AI Systems Engineer / Creative Technologist

profile

Engineer and creative technologist working across AI, software, hardware and interaction design. I turn emerging technologies and loosely defined problems into working systems, prototypes and products. Experience spans production voice systems at Snips / Sonos, connected devices, real-time multimodal AI, local inference and LLM orchestration.

selected capabilities

- Build end-to-end AI systems: local inference, orchestration, real-time voice pipelines and multimodal interaction
- Prototype across the full stack: interaction design, software, embedded firmware, electronics and physical objects
- Translate emerging technologies into user-facing product concepts and functional demonstrators
- Operate self-hosted AI infrastructure: GPU nodes, networking, storage, virtualization, monitoring and observability

work experience

2019 **Snips / Sonos** Paris, FRANCE
Senior Voice Experience Technologist
- Contributed to the product definition and UX specification of Sonos Voice Control
- Designed and built a child-first music interaction prototype combining voice, contextual sensing and connected Sonos devices
- Developed song retrieval from partial lyrics; mined and structured lyrics data and established collaboration with an external lyrics API provider
- Built the physical prototype and ESP32 firmware, including ultrasonic room-position sensing to transition playback between portable and fixed speakers
- Demonstrated, with limited investment, a broader approach to contextual room-to-room listening beyond the original children-focused concept

2018 **Snips** Paris, FRANCE
Hacker in Residence
- Built approximately 20 functional prototypes exploring voice, interaction systems and post-voice paradigms
- Turned new technical capabilities into concrete user experiences and product concepts

2017 **Dailymotion** Paris, FRANCE
Design Systems Technologist
- Built design-system tooling, including interface generation and translation tools
- Worked across frontend engineering, DesignOps and exploration of new product interactions

2015 **Joshfire** Paris, FRANCE
Lead Developer R&D / in charge of innovation
- Led R&D projects combining connected devices, embedded systems, backend services and user interfaces
- Built hardware/software prototypes and IoT architectures for major clients

2014 **SAP Lab** Palo Alto, USA
Innovation Prototyper
- Worked within the Chairman's project team on exploratory product and collaboration concepts
- Built a prototype for sharing screens and applications during interactive meetings
- The concept later evolved into CoScreen, subsequently **acquired by Datadog**

2013 **Saatchi & Saatchi + Duke** Paris, FRANCE
Creative Technologist
• Developed interactive and technology prototypes for Toyota, ClubMed, VISA Premier, Veuve Clicquot and Piaget

2011 **M.I.T Media Lab - Fluid Interfaces Group** Cambridge, USA
Internship
• Created SPRayCE (Space Spray), a spray-based device for drawing in mid-air; work later featured in SIGCHI / Laval Virtual and technology publications

2010 **JRL-AIST** Tsukuba, JAPAN
Internship
• Worked on non-smooth contact models, haptic interfaces and the final demonstrator of the European Commission ImmerSense project

recent AI systems & independent R&D

Self-hosted AI infrastructure — Built and operate GPU-based local inference infrastructure with local LLM serving, networking, storage, virtualization and observability.

Real-time voice systems — Designed streaming STT → LLM → TTS pipelines focused on low latency, orchestration and real-time interaction.

Multimodal orchestration — Developed systems connecting voice, IoT, generative interaction and persistent application state rather than treating the model as a standalone chatbot.

Model-level experimentation — Experimented beyond API integration, including training small models from scratch to better understand data, training, inference and deployment constraints.

selected achievements

Sonos contextual listening prototype — From user insight to a functioning physical prototype: interaction model, lyrics data mining, external API collaboration, embedded firmware and ultrasonic spatial sensing.

CoScreen origin prototype at SAP — Built an interactive collaboration prototype that later evolved into CoScreen, acquired by Datadog.

SPRayCE at MIT Media Lab — Created a novel physical interaction device for drawing in 3D space; presented and published through research and creative-technology channels.

education

2011–2013 **STRATE COLLEGE DESIGNER** Sèvres, FRANCE
M.Sc. Industrial / Interaction Design - interactive systems, product design, visual communication and prototyping

2010–2011 **ECOLE NATIONALE SUPÉRIEURE DES ARTS ET MÉTIERS** Laval, FRANCE
M.Sc. Immersive Engineering; M.Sc. Numerical Modelling in Virtual Reality - VR/AR, haptics, HCI and real-time 3D

2008–2010 **ECOLE NORMALE SUPÉRIEURE** Cachan, FRANCE
Mechanical Engineering - modelling, numerical methods, mechanics, CAD and industrial product prototyping

technical range

AI / software: Python, local LLM inference, vLLM / Ollama, LLM orchestration, real-time voice pipelines, web technologies, observability

Embedded / physical: ESP32, embedded firmware, IoT, electronics, PCB prototyping, sensors, connected objects, 3D printing, Fusion 360

Interaction / creative technology: voice UX, multimodal interfaces, prototyping, design systems, real-time 3D, physical interaction

Languages: French (fluent), English (professional), Korean (native)

additional

Technology enthusiast and maker. Personal R&D spans local AI systems, electronics, IoT, experimental interfaces, music technology, photography and computer-generated art.