ARAN EDWARD LUNZER, Ph.D.

CAREER SUMMARY

Interaction and Visualization Researcher • System Architect and Developer

- **Former senior researcher in Alan Kay's Viewpoints Research Institute**, contributing to group projects while also advancing and showcasing own invented 'subjunctive interface' approach to helping users understand the context surrounding their computational enquiries.
- **Experienced web startup co-founder**, developing core components of Croquet's JavaScript replicated-computation library and applications, and extensions to support frame-accurate synchronization of media streams and game objects. Recognized for addressing complex engineering challenges, and for diagnosing and fixing intricate multi-user application errors.
- **Distributed-system architect and engineer**, independently designing, testing and deploying Cloudflare worker logic to scale a proof-of-concept DePIN network into a global platform for session dispatch and automated quality-of-service monitoring across thousands of heterogeneous community-provided nodes.
- **Active AI-assisted developer**, with experience of sustained, correction-heavy collaboration with Cursor (2025) to build and maintain a production log-analysis pipeline, and more recent work with Claude Code (2026) to develop interactive web apps: one public art piece on LLM answer bias, and two longitudinal visualisations of agent chat behaviour in the AI Village.

MAIN RESEARCH AND DEVELOPMENT ROLES

Chief Visioneer, Croquet Labs, Los Angeles, USA Mar 2024–Sept 2025

Technology-development partner of Multisynq Foundation, redeploying Croquet Corp's support infrastructure as a DePIN platform

Chief-architect-level engineer. Designed, built out, and maintained the Cloudflare Durable Objects-based registry for Croquet's transformation into a DePIN platform, scaling to a global network of thousands of synchronizer nodes. Designed and built the registry's automated quality-of-service monitoring, and a Postgres-backed log harvesting and analysis setup for sifting millions of daily logs to detect and troubleshoot synchronizer and infrastructure issues.

System Visioneer, Croquet Corporation, Los Angeles, USA Mar 2020–Mar 2024

Startup providing a client-side-only library for development of synchronized web apps

Co-founder and principal engineer. Responsible for key elements of the Croquet platform itself, while also serving as the company's specialist in integrating other services and libraries across diverse platforms including mobile and Raspberry Pi. Refined Croquet's realtime capabilities to deliver frame-accurate synchronization of video and audio streams across arbitrary web-capable devices, with demonstrator apps delivered to large external customers. Designed and built a high-throughput bridge to allow Croquet games to use Unity rendering.

Senior Researcher, Viewpoints Research Institute, Los Angeles, USA Oct 2011–Sept 2017

Alan Kay's non-profit group, investigating 'powerful ideas' in children's education, systems research, and personal computing

Programmer and researcher reporting to Alan Kay. Contributed to systems-research and personal-computing team projects (NSF STEPS, Lively Web), while continuing to develop and demonstrate own 'subjunctive-interface' research theme using innovative combinations of languages and frameworks. In VPRI's final months, acted as core member of a team adapting VR techniques to data-intensive information visualization.

Associate Professor, Meme Media Laboratory, Hokkaido Univ., Japan May 2004–Mar 2011

Teaching/research lab in one of the seven former Imperial Universities (with Tokyo, Kyoto etc)

Research professor within 'Center of Excellence' projects led by Yuzuru Tanaka and Hiroki Arimura. Designed, developed and deployed an end-user programming environment with built-in subjunctive-interface support. Administrative roles included overseas liaison and project support, including coordinating our participation in a 5-year, 24-partner EU Integrated Project, and leading HCI-related UK/Japan research visits in collaboration with the British Embassy.

PRE-PHD EMPLOYMENT

Software Technology, IBM UK Laboratories Ltd, Winchester, England 1988–1991

Member of the 'advanced technology' group responsible for evaluating software technologies and seeding new development areas. Specialization: object-oriented systems software.

- Designed and built an innovatively flexible programming environment as part of the prototype object-oriented extensions later adopted for IBM's REXX language.
- Acted as technical analyst and advisor in software strategy negotiations, within IBM and with development partners including Apple Computer (the 'Pink' project) and Microsoft.

EDUCATION

Ph.D. in Computing Science, University of Glasgow, Scotland

Title: **Reconnaissance: a widely applicable approach encouraging well-informed choices in computer-based tasks**

B.A./M.A. in Engineering, University of Cambridge, England

SKILLS, AFFILIATIONS

Principal software technologies used:

- **Languages:** JavaScript (including Node.js), TypeScript, Python, Smalltalk, C, HTML/CSS
- **Frameworks/Libraries:** Three.js, d3, React
- **Cloud:** Cloudflare, GCP
- **Tools:** Git, Kubernetes
- **AI coding tools:** Cursor, Claude Code

Society memberships: Association for Computing Machinery; IEEE Computer Society

FOREIGN LANGUAGES

Japanese: advanced reading/conversation;
passed highest-level (1st kyu) national proficiency test in 1999

Mandarin: actively studying (reading only); upper-intermediate level as of mid-2026

French: everyday reading and conversation

German: completed intermediate-level course