

Kentaro Seki

AI Researcher — Engineer — Entrepreneur

seki.kentaro@kyotoai.org linkedin.com/in/kentaro-seki-b12000339 https://github.com/kentarrito

Professional Summary

I'm an AI researcher and engineer with broad interests spanning theoretical physics, artificial intelligence, engineering, biology, and game design. I enjoy building things from first principles and understanding nature and technology on a deep level. At KyotoAI, I lead the development of **SEIMEI**, a reinforcement learning-driven agent framework designed to scale expert reasoning and improve decision-making across complex domains.

Education

- **Kyoto University** Bachelor of Engineering, Department of Nuclear Engineering (Apr 2021– Present)
- **Toho High School** (Apr 2018– Mar 2020)

Projects & Experience

CEO & Co-Founder — KyotoAI Inc.

(2024–Current)

Leading the development of advanced AI systems as both the CEO and Chief Engineer.

SEIMEI: Search-Engine-Integrated Multi-Expert Inference

(2024–2025)

GitHub: <https://github.com/kyotoai/SEIMEI>

- Developed reinforcement learning-optimized agent system integrated with a search engine.
- Developed a novel search architecture outperforming traditional vector search models.
- Achieved notable improvements on coding-related tasks using the SEIMEI framework.

FRAG: Feedback Retrieval-Augmented Generation

(2024)

GitHub: <https://github.com/kyotoai/FRAG>

- Extended RAG by incorporating **human feedback** and **AI agent internal reasoning** into retrievable documents.
- Enabled learning from past mistakes and reasoning chains.
- Tested with nuclear fusion simulation documents and medical knowledge datasets.

Exploration of Novel Search Techniques

(2024)

- **SEAT**: Devised a vector search model that scores each sentence in context with other relevant documents.
- **SENTO**: Devised a novel embedding approach using virtual tokens instead of numerical vectors.

Game Development Projects

(2022–2023)

Developed browser-based and 3D simulation games to explore and teach physics and engineering concepts.

Open-World-Science (Unity)

- Developed a physics sandbox game where players build and simulate machines to explore scientific principles.
- Built a custom CAD-like editor — including mesh modification — for designing vehicles and power systems.
- Simulated realistic combustion engines, steam turbines, and electric circuits.

Online JavaScript Games

- <https://checker-planet-growth.glitch.me> — Monopoly Clone: Multiplayer board game with trade and tile logic.
- <https://glaze-stripe-brow.glitch.me> — Word Wolf: Real-time social deduction game using WebSockets.
- Developed with Node.js, Socket.io, and custom browser-based UI/UX.

Drone Project: CHISATO

(2023, Second Half)

- A drone-based shooting game where children fire toy guns at flying drones, and the drone AI evades using visual recognition.
- Led a 3-person team to build the system including drone mechanics and image recognition.
- Designed custom motor control circuits, trained an object detection model, and tested drone flight.
- Received positive feedback from engineers at Panasonic and Sony.

Solar Cell Fabrication

(2024)

- Built a **dye-sensitized solar cell** (DSSC) using raw materials (e.g., carbon, fabric) with a friend.
- Assembled and successfully generated power using sunlight.

Projects in High School

(2018–2021)

- Developed a **Shogi game app** and **English vocabulary app**
- Trained a digit recognition model using only NumPy (no frameworks) and an **LSTM-based chatbot**

Technical Skills

- **Languages:** Python, JavaScript, C#
- **Frameworks & Tools:** PyTorch, Unity, Blender, Fusion 360
- **Domains:** Reinforcement Learning, LLMs, Physics Simulations, Game Design
- **Other:** Drone Engineering, Circuit Design, Control Systems

Languages

- Japanese (Native)
- English (Proficient)