



# Miika Kulmala

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## SUMMARY

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Full-stack developer with 8+ years of experience, currently focused on AI-powered tooling and large-scale data systems. Node.js backend specialist, equally at home in React and Vue, with working knowledge of Python, Java and C#. I'm drawn to projects that combine ordinary web engineering with something less ordinary - crawlers running across countries, hardware in the loop software or AI agents that need real guardrails.

## EXPERIENCE

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Software Developer — Viomba (Dec 2021 – Present)

Ad intelligence platform. Worked across a wide range of technically challenging products:

- Built a browser extension integrating Tobii eye-tracking with ad analytics, including video-theatre support for gaze analysis during video playback, used with dedicated panels of research participants.
- Designed and scaled a web crawler system spanning 10+ countries - 100,000+ domains in three markets alone - mapping ad placements, creatives, and site-level ad inventory.
- Developed an MCP server unifying the company's AI and data products into a single interface for AI agent use.
- Built an AI-powered ad generation tool using a vision model to produce complete ad creatives from instructions, with iterative refinement support.
- Created AI-assisted log inspection tools for admins, enabling natural language querying of logs and automated tracing of issues back to source code.

Software Developer — Etteplan (Jan 2021 – Dec 2021)

Consultancy work on customer software projects, primarily in JavaScript frameworks.

Full-Stack Developer (Research Assistant) — University of Jyväskylä (Nov 2017 – Jan 2021)

- Database design and deployment for the lotli research project.
- Lead developer of the JKL-Open front- and backend.
- Taught TIEA207 (project-work course), running sessions for intermediate CS students.

## Website Developer — Freelance (Jun 2016 – Present)

Designing, developing and deploying websites for small businesses, taking projects end-to-end from initial design through to production.

## EDUCATION

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### Computer Science — University of Jyväskylä (2015 – 2018, 2020 – 2021)

Studies toward a BSc in Computer Science, interrupted by compulsory military service and not completed. Coursework covered the standard CS core (algorithms, software engineering, databases).

## SKILLS

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- Languages: JavaScript / TypeScript, Python, Java, C#
- Frontend: React, Vue
- Backend: Node.js
- Databases: MySQL, Postgres, Redis, IndexedDB
- AI / Tooling: LLM agents, vision models, MCP servers, AI-assisted development workflows and agent guidelines
- Cloud & Infrastructure: AWS (EC2, S3), Docker, Linux, self-hosting / homelab
- Specialised / Other: Large-scale crawlers, browser extensions, hardware integration (Tobii eye-tracking)

## SELECTED SIDE PROJECTS

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- OpenTTD Savegame Map Viewer - public map viewer for the retro game OpenTTD, self-hosted. (public)
- AI Video Editor - pipeline that ingests video, splits it into scenes, tags each with AI-generated metadata and character recognition, then uses a vision model with a sandboxed toolset to produce short-form edits automatically. (private)
- Japanese Conversation Tutor - voice-driven LLM tutor for spoken practice. (private)
- Companion Agent - self-hosted voice-and-vision AI assistant with persistent memory. (private)

## LANGUAGES

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- Finnish - native
- English - professional working proficiency

## OUTSIDE WORK

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Long-time football referee with the Football Association of Finland (since 2012) - a role that has taught me a lot about communication and quick decision-making. Also a homelabber and 3D-printing hobbyist who enjoys designing custom parts.