



Raoul Grouls

AI strategy · Research ·
Education

CONTACT

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FOCUS

Intelligent ecosystems

Designing systems in which humans and AI collaborate accountably, as partners rather than tool and user.

Strategy that ships

I connect AI strategy to execution: understand what an organisation really needs, model it, and help teams excel with AI.

Neuro-symbolic research

Making AI useful where hallucinations cannot be tolerated: reliable logic integrated with language models, grounded in Category Theory and Geometric Deep Learning.

EDUCATION

Artificial Intelligence, cum laude ·

Utrecht University, 2017–2020 · Honours programme

Physics, foundation year · Utrecht

University, 2016–2017

Humanistics · University of

Humanistics, 1997–2000

Building human-AI ecosystems

I design AI strategies that execute, and help humans and AI cooperate in meaningful ecosystems. My neuro-symbolic approach makes AI useful where hallucinations cannot be tolerated, such as governance. As an enthusiastic lecturer and speaker, I explain difficult topics to any audience.

CURRENT WORK

Founder — [pttrn](https://pttrn.io)

2014 – present

Formerly Evoluminate · Zeist

AI-assisted decision-making. I am helping Provincie Utrecht to solve the spatial planning puzzle. Spatial planning demands AI that is transparent, explainable and accountable, so I designed mathematical artefacts that help policy experts and AI reason together. We work with other provinces and have just started the European GENeCITY project.

Training. Trained hundreds of professionals and decision makers to understand and develop AI, at Provincie Utrecht, GorillaIT, HAN, HU and beyond.

Tech lead for cloud-based explainable AI in the medical domain (MedxAI); probabilistic demand forecasting for retail; deep learning systems for international companies in industry.

Associate Director AI — [GorillaIT](https://gorillaIT.nl)

2025 – present

AI strategy, innovation and development for clients that need AI integrated in their product in a trustworthy way. I give technical direction to the AI products for all clients; the teams implement.

AI Researcher — [HAN University of Applied Sciences](https://han.nl)

2023 – 2026

Neuro-symbolic research: integrating mathematical structures, large language models and human interaction so that publicly accountable organisations can collaborate with AI in a trustworthy fashion. Applied in the SCEPA project (EU Interreg): scaling approaches to energy poverty across North-West European municipalities.

Lecturer and co-designer of the Master of Applied Data Science (MADS), with a focus on deep learning.

Lecturer deep learning & data analysis

2019 – present

— [University of Applied Sciences Utrecht](https://han.nl)

Via Anchormen, Business & Decision, now pttrn

Created the AI track of the MADS. Teach deep learning and data analysis hands-on, supervise master theses. Student rating 9.4/10.

RECENT PUBLICATIONS

AI-Empowered Urban Digital Twins: Integrating Geospatial and Legal Data for Spatial Planning and Governance
Koeva, M., Zlatanova, S., Petrova-Antonova, D., Peters, R., Persello, C., Nourian, P., Lehtola, V., Flacke, J., Grouls, R., Stein, A. ISPRS Annals, 10th Int. Smart Data and Smart Cities Conference, 2026. Accepted.

When Is Spatial Planning Ready for Generative AI? A Value-Sensitive, Mixed-Methods Evaluation of an LLM-Based Wind-Energy Mapping Demonstrator
Smit, K., Peters, R., Leewis, S., van Meerten, J., Kok, F., Grouls, R. Frontiers in Political Science, submitted June 2026.

The GPT-level Bureaucrat: Toward a Framework for Legitimate Generative AI-Augmented Spatial Planning using Control Mechanisms from a Dutch Regional Government Case Study
Smit, K., Peters, R., Swager, J., Grouls, R. In preparation.

LANGUAGES

Dutch (native) - English (fluent)

EARLIER

Senior Data Scientist – Business & Decision (now [Orange Business](#))

2022 – 2023

Tech lead for reusable AI “blueprints”: probabilistic demand forecasting for retailers; reinforcement learning to cut datacenter cooling energy at Orange, deployed as a dockerized pipeline on GCP. NLP datalab for stellar.io. Coached juniors and mediors.

Senior Data Scientist – Anchormen (now [Eraneos](#))

2019 – 2022

Researched and deployed deep learning for Heineken, Reckitt Benckiser, Bridgestone, Technische Unie, Vitens, Vattenfall and Brocacef: NLP, vision, probabilistic forecasting, graph neural networks. Wrote the deep learning curriculum used at CJIB, ASR, Hogeschool Utrecht, Haagse Hogeschool and Gemeente Amsterdam. Authored the company's Ethical AI policy. Senior data scientist MedxAI at St Maartenskliniek.

R&D – [Yooom](#)

2012 – 2014

Co-authored a successful European subsidy and ran the resulting two-year project: a health platform for chronic psychiatric patients (miind.org) and an online community for lonely elderly. Product development, running the pilot studies and analysing their results.

Innovation Manager – Zonnehuizen

2007 – 2012

Interdisciplinary innovation projects across the full chain of a mental-health organisation, from care programmes for complex clients to HR instruments and support services. Ran Large Scale Interventions, locally and nationally.

Psychiatric pedagogical caregiver – Zonnehuizen

2001 – 2007

Treatment of adolescents with psychiatric disorders. The years that taught me that people, not systems, decide whether change works.

HOW I WORK

Meaning first. I want to understand how people solve the problems in their company, what the organization really cares about and what drives it. I model the system with mathematics that is expressive enough to capture the creativity of the process. I excel at explaining difficult topics, which creates what an ecosystem of people and AI need: a shared language.

pttrn: pattern without its vowels. Finding patterns is just the start; humans bring it to life with the vowels.