



# Mathijs Henquet

Software Engineer · Amsterdam, NL

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Engineer with a dual CS/Math background who takes ideas from pitch to production. At NLR, I built and drove adoption of SKY (generative AI platform, €800k+/yr gains) and SENTINEL (military voice assistant, adopted by Dutch MOD). MIRI 2019 Fellow.

## EXPERIENCE

### R&D Engineer, AI team

2023–2026

NLR – Royal Netherlands Aerospace Centre, Amsterdam

- **SKY** – Pitched, designed and built NLR's locally hosted generative AI platform for classified data. €800k+/yr in measured productivity gains. *.NET C#, gRPC, Python, RAG, TensorRT-LLM, Docker, Rust*
- **SENTINEL** – Led development of real-time voice assistant for military situational awareness. Among 4% of Defence innovation projects adopted as standard capability. *Python, Whisper, WebRTC, vLLM, VLM/LLM, TTS (Kokoro)*
- **Mesh-as-a-Service** – Automated 3D modeling via neural reconstruction. Runner-up Best Paper at I/ITSEC 2024.
- **Flight Debrief Study** – Led strategic study on automated flight debriefing summarization. Published at ICCAS 2024.

## AWARDS & FELLOWSHIPS

- **Runner-up NLR Team Innovation Award** (2025) – SKY team, nominated among organization-wide finalists (among ~1000 employees)
- **Runner-up Best Paper** (2024) – Simulation subcommittee, I/ITSEC 2024 – for the Mesh-as-a-Service paper
- **MIRI Summer Fellowship** (2019) – Academic retreat for mathematicians and programmers working on AI alignment

## PROJECTS

### Correctness of Automatic Differentiation

2022

Master's thesis (on hold)  
Formal proof of correctness of automatic differentiation in the presence of recursion and iteration. Utrecht University, Mathematics.

### Homotopical Mathematics

2019

[PDF ↴](#) Bachelor's thesis, 9/10  
On homotopy type theory and its relation to higher topos theory. Utrecht University.

## PUBLICATIONS

**Henquet**, Bellucci, Amghane, et al. “[Mesh-as-a-Service: Automated 3D Modelling fast as l-AI-ghtning.” ↴ I/ITSEC 2024. Runner-up Best Paper, Simulation subcommittee.](#)

**Henquet**, Bellucci. “[AI-Assisted Debrief: Automated Flight Debriefing Summarization and Competency Assessment.” ↴ ICCAS 2024.](#)

Hellinga, **Henquet**, Bellucci. “[SENTINEL: Supporting Military Situation Understanding Through Conversational Vision-Language AI.” ICMCIS 2026 \(accepted for publication\).](#)

## EDUCATION

### MSc Mathematics

2020–2022

(on hold) – Utrecht University

### BSc Computer Science

2015–2019

GPA 7.8/10 – Utrecht University

2012–2019

## TECHNICAL SKILLS & LANGUAGES

**Languages:** Rust, TypeScript/JavaScript, Python, C# (.NET), Haskell, SQL

**Web:** React, Node.js, HTML/CSS, Vite

**AI/ML:** LLM/VLM integration, RAG pipelines, latency optimization (TTS/STT/embedding models)

**Infrastructure:** Docker, Linux, PostgreSQL, MongoDB, Redis

**Other:** Security-compliant deployment, classified data handling, LaTeX, Mathematica

**Languages:** Dutch (native) · English (C2) · German (C1)