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# Simen van Herpt

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## Experience

**Software Engineer** *Utrecht, the Netherlands*
*EpicFlow* *Jan 2022 – Present*

- Developed software for simulating and automating multi-project resource management environments.
- Collaborated with two leading researchers in the field to develop, test, and visualise new metrics for evaluating project portfolios in order to increase the flow of work with the existing staff.
- Built a full-stack web application using Vue, d3, and MongoDB to create a serious game that lets users simulate and analyse decision outcomes interactively. Used as a training tool to address growing operational challenges in the defence sector, including by the Ministries of Defence in the Netherlands and the UK.
- Developed a high-performance event-based simulator in C++ for optimising multi-project resource allocation in order to support large-scale simulation-based optimisation using methods such as simulated annealing.

**Research Assistant** *Utrecht, the Netherlands*
*Utrecht University* *June 2020 – Jan 2022*

- Contributed to the development of PROVEE (Progressive Exploration of Embedding Spaces), a flexible system supporting the progressive analytics paradigm for efficient exploration of large datasets.
- Responsible for designing and implementing a language-agnostic, contract-based microservice architecture using Docker, Kubernetes, and gRPC, significantly enhancing PROVEE's flexibility, scalability, and extensibility for future development.
- Developed microservices using Python, C++, Numpy and Faiss for flexible visualisations and modular analytics, such as semantic reasoning with kNN trees, and demonstrated its potential through a Natural Language Processing case study.

## Education

**MSc in Artificial Intelligence** *Utrecht University* *Graduated 2025*

- Double Master's honours programme, awarded cum laude (8.9/10.0)

**MSc in Computer Science** *Utrecht University* *Graduated 2025*

- Double Master's honours programme, awarded cum laude (8.8/10.0)

**BSc in Computer Science** *Utrecht University* *Graduated 2020*

- Awarded cum laude (8.2/10)

## Projects

**Learning Complementary Latent Representations** *svherpt.github.io/latentRepr*

- Extended the Predictive Encoder-Decoder architecture by splitting latent representations into local and global components, improving performance in environments with unmeasurable disturbances.

**Simulating Crowds in Real Cities** *svherpt.github.io/crowdsimulation*

- Integrated multiple crowd simulation software tools with cadastral data, road maps and satellite data in Unity and C# in order to simulate crowd movement in 3D environments of real cities.

## Languages & Technologies

**Languages:** C++, C#, Python, JavaScript, Haskell

**Technologies:** .NET, Docker, Kubernetes, gRPC, Git, Tensorflow, NumPy, MongoDB, OpenCV, Vue, d3

## Hobbies and Activities

I play hockey chess, and spent a few years rowing. I also helped organize events, such as ski trips and tournaments.