

# Ian van de Poll

Software & ML engineer

# Personal information

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Date of birth: 13 April 1998 3055GK Rotterdam

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Nationality: Dutch GitHub: https://github.com/tragamota

# Profile

Analytical and detail-oriented Artificial Intelligence graduate student with a strong foundation in deep learning and software engineering. Specializing in reinforcement learning for modeling behavior in complex systems. Gaining hands-on experience in applied research and software development through academic and industry projects. Passionate about building intelligent, resilient systems capable of solving real-world challenges autonomously. Also deeply interested in game engine architecture, graphics programming, and high-performance computing. Known for a quiet determination, strong problem-solving skills, and a continuous drive to learn and improve.

## Education

## Master Artificial Intelligence, Utrecht University

September 2022 - July 2025

My primary emphasis is on Autonomous Systems and Decision-Making, particularly within the realms of game theory, multi-agent learning, and reinforcement learning. In addition to my core focus, I have engaged in courses covering Computer Vision, Natural Language Processing, and general machine learning techniques. I've also complemented my curriculum with additional courses outside the master's program, delving into Data Science and Computer Graphics for games.

## (HBO) Technische Informatica, Avans Hogeschool

Augustus 2016 – January 2022

Programming technical solutions based on concepts such as networking, computer vision, 3D graphics, Embedded systems, Artificial intelligence and Mobile applications.

#### **HAVO, Wolfert Dalton**

Augustus 2011 - Mei 2016

HAVO diploma obtained with the Profile Economy & Society with Mathematics B.

# Work experience

# TNO The Hague, Msc Internship - Detecting adversarial attacks within images.

September 2024 - July 2025

For my master's thesis, I explored adversarial attacks on object detection models, focusing on whether a single deep learning model could detect both gradient-based (digital) and patch-based (semi-physical) attacks. I developed a novel detection approach that is simpler and faster than existing methods reported in the literature. An ablation study was conducted to evaluate detection performance and to analyze which features the model learned to distinguish between clean and adversarial images, as well as the robustness of these learned representations.

#### Hilti Nederland BV, Software developer

Augustus 2018 – April 2025

Custom development of digital solutions to improve customer order process and automate processes internally to save time, be more correct and efficient.

## TNO The Hague, Internship – 3D Environments in the browser

Augustus 2021 - 2022

TNO is a research institute that develops solutions for societal issues. For example, TNO works together with defense. During my time at the Modeling, simulation and gaming department, we looked at extending the current pipelines for virtual environments to the browser. This would make it easier for the military to view the environments and have more information in advance before going on a mission or training.

## Hilti Nederland BV, Internship VR – BIM competence centre

November 2019 – April 2020

Hilti is a supplier of professional tools for the construction industry. In the transition to new digital tools and digital building via BIM. Commissioned by the Hilti competence center we looked into the possibility of visualizing the digital possibilities through BIM in Virtual Reality environment.

# Skills

## **Programming Languages**

C++, C, Python, Java, C#, JavaScript, TypeScript, SQL

#### Frameworks & Libraries

Pytorch, TensorFlow, Hadoop, Apach Spark, Scikit-learn, NumPy, Pandas, HDF5, Matplotlib, Albumentation, YOLO, OpenAl Gym, Stable Baselines3, OpenCV, Unity, OpenGL, Vulkan, GLFW

#### **Tools & Development Environments**

Github/Gitlab (CI/CD), JetBrains IDEs, Visual Studio, UML, Docker, Powershell, Bash, CMake, Linux, Windows API

#### **Technical Domains**

Computer Vision, Reinforcement learning, Autonomous systems, Embedded Systems, 3D Graphics

#### Languages

Dutch (native), English (fluent)

#### References

References available on demand