Antonie Veldwachter



MSc Robotics Student | Mechatronics & Physical AI | Algorithms & Social AI | Robotics R&D Engineer

Residence:	Klarenbeek, Netherlands
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Date of Birth:	21 September 2002

LinkedIn

Profile

Enthusiastic and solution-oriented with an MSc graduate in robotics. Specialized in Mechatronics and physical AI and Algorithms and Social AI. Experience with communication protocols, sensing technologies, and designing. Strong communicator with experience in technical demonstrations, teaching, and interdisciplinary collaboration. Motivational and enthusiastic personality.

Experience

University of Twente – RAM Lab | MSc Thesis Researcher

2025 – 2026 | Enschede

- *Developed and compare MR-safe force sensing concepts for MRI-guided robotic systems*
- *Designed and tested 3-DoF force hydraulic, pneumatic, and mechanical force sensing principles*
- *Demonstrated feasibility of fully 3D-printable MR-safe force sensors for robotic end-effectors*

KITE Robotics | Robotics Engineering Graduate Internship

2023 | Oldenzaal

- *Developed a real-time localization module using LiDAR and SLAM technologies*
- *Self-studied SLAM and localization techniques beyond formal coursework*
- *Improved positioning accuracy of the KITE robotic system in dynamic environments*

HILTI | R&D Engineering Intern

2021 – 2022 | Schaan, Liechtenstein

- *Developed modular IoT platform for real-time visualization of R&D projects*
- *Integrated multiple communication protocols into scalable monitoring architecture*
- *Contributed to development of thermal deformation sensing technologies*

Abacus Bijles Instituut | STEM Tutor

2024 – Present

- *Tutor in Mathematics, Physics, and Economics*
- *Recognized for intuitive technical explanations and strong motivational skills*

Education

University of Twente

MSc Robotics | 2023 – 2026
Specializations: Mechatronics & Physical AI, Algorithms & Software AI
Focus areas: Machine Learning, AI, SLAM, Control Systems, Manufacturing, Real-time software

Saxion University of Applied Sciences

BSc Mechatronics | 2019 – 2023 Minor: University Transition Program (Pre-master Track)

Technical Skills

Programming: Python, C++, C#, Dart, JavaScript, HTML/CSS
Robotics & Engineering: SLAM, LiDAR, Sensor Integration, Control Systems, Rapid Prototyping
Software & Tools: ROS2, MATLAB/Simulink, Linux, Git, SolidWorks (CSWP), LaTeX
Hardware: 3D Printing, Embedded Systems, Electronics Prototyping

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Leadership & Communication Experience

- *Demo Manager at University of Twente RAM Lab for robotics demonstrations and public outreach*
- *Organized introduction week for 2,500+ students as Secretary of Saxion INTRO Board*
- *Public speaking experience including large (educational) events and technology demonstrations*
- *Student assistant for programming and sensor systems courses*

Languages

Dutch (Native), English (Fluent), German (Intermediate)

References

Name	Titel	Contact Info
Dr. Ir. Jan Broenink	Program Director MSc. Robotics* Supervisor Academic Skills Project	Tel: +31 6 34892793 Email: j.f.broenink@alumni.utwente.nl
Dr. Ir. Vincent Groenhuis	Supervisor MSc. Robotics Thesis	Tel: +31 6 30056458 Email: v.groenhuis@utwente.nl
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** No longer in function*