

Pien ROOIJENDIJK



PROFILE SUMMARY

I'm Pien, a PhD candidate at Radboud University, where I'm working on the project *Find2Fix: reducing software errors using transparent AI*. My research sits at the intersection of Artificial Intelligence, Cybersecurity, and Software Engineering. Software vulnerabilities pose a huge challenge to digital security, and while AI can help detect them, many current models act like black boxes. My work focuses on making these AI systems more transparent, interpretable, and trustworthy, so that developers and security analysts not only get accurate results, but also understand why a piece of code is flagged as vulnerable.

CONTACT DETAILS

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PERSONAL INFORMATION

Languages: **English, Dutch**

SKILLS

- Programming skills (Python, Java, and Scala)
- Communication and team collaboration
- Fast learner, creative problem solving and thinking

EXPERIENCE

PHD CANDIDATE at Radboud University

Sep 2025–Present

As part of my research, I focus on explaining the root cause of already identified bugs and why a suggested fix or patch works. My work aims to combine technical AI explanations and human understanding by exploring:

- ◊ Tailoring explanations to varying contexts and needs of software engineers.
- ◊ Evaluation frameworks to measure the quality and usefulness of AI explanations.
- ◊ Engage with software engineers via case studies, interviews and other empirical methods to better understand their perspectives.

RESEARCH INTERNSHIP at Sentyron (Formerly Fox Crypto)

Sep 2024– May 2025

- ◊ Worked on AI-powered software for identifying and analyzing software vulnerabilities.
- ◊ Participated in daily stand-ups, developing a strong understanding of secure software development workflows in a real-world environment.
- ◊ Researched using federated learning to securely analyze classified documents with large language models (LLMs), ensuring data privacy and security.

TEACHING ASSISTANT at Radboud University

Oct 2021– Mar 2022

Assisted bachelor students in Linear Algebra and Advanced Calculus courses.

- ◊ Provided support, clarified key concepts, and providing feedback by grading student assignments.

E-SUPPORT at Radboud University

Sep 2022–Jun 2025

Provided technical support to students during online exams.

- ◊ Assisted students during online exams with software and hardware issues.
- ◊ Ensured exams ran smoothly without technical disruptions.

EDUCATION

MASTER OF COMPUTING SCIENCE (MSc). Radboud University

2022–2024

- ◊ Specialized in Cybersecurity and AI, focusing on the intersection of these two fields.
- ◊ Focused on adversarial machine learning, privacy-preserving AI and cybersecurity.
- ◊ Gained in-depth knowledge of cybersecurity principles, including applied cryptography and physical attacks on secure systems.
- ◊ Expanded expertise in AI techniques, covering deep learning, natural computing, and machine learning.

BACHELOR OF SCIENCE (BSc) Radboud University

2020–2023

- ◊ Bachelor in Artificial Intelligence
- ◊ Developed a strong foundation in mathematics, neuroscience, computer science, psychology, logic and philosophy.
- ◊ Built core AI skills in the first year through courses in mathematics, robotics, psychology, and logic, alongside research techniques including statistics and experimental design.

CERTIFICATIONS

CERTIFICATE BIP PROGRAM CYBERSECURITY STRATEGIES IN THE ERA OF ARTIFICIAL INTELLIGENCE, Babeş-Bolyai University

May 2024

- ◊ Explored the main forms of cybercrime, how perpetrators exploit disruptive technology tools, and strategies for building effective cybersecurity defenses.