François De Keersmaeker

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PUBLICATIONS

[1] François De Keersmaeker, Rémi Van Boxem, Cristel Pelsser, and Ramin Sadre. The Forest Behind the Tree: Revealing Hidden Smart Home Communication Patterns, 2025. https://arxiv.org/abs/2502.08535.

[2] François De Keersmaeker, Ramin Sadre, and Cristel Pelsser. Supervising Smart Home Device Interactions: A Profile-Based Firewall Approach. In *2024 IFIP Networking Conference (IFIP Networking)*, pages 413–422, 2024.

[3] François De Keersmaeker, Yinan Cao, Gorby Kabasele Ndonda, and Ramin Sadre. A Survey of Public IoT Datasets for Network Security Research. *IEEE Communications Surveys & Tutorials*, 25(3):1808–1840, 2023.

REPOSITORIES

- `smart-home-firewall`
- `firewall-blocklist`
- `profile-translator-blocklist`
- `pcap-fuzzer`
- `pyyaml-loaders`
- `lorawan-smart-lln`
- `zeek-plugins/mdns`
- `zeek-plugins/igmp`

AWARDS

Best Poster Award
TMA 2024 PhD School
May 22, 2024 | Dresden, Germany
Best Poster
GRASCOMP 2024 Doctoral Day
Sept. 9, 2024 | Louvain-la-Neuve, Belgium

SKILLS

LANGUAGES

🇫🇷 French: native • 🇬🇧 English: B2
🇳🇱 Dutch: B1

PROGRAMMING

Shell • Assembly • C • C++ • Java • Python
Ruby • Scala • JavaScript • Android • Matlab
LaTeX • Erlang • SystemVerilog

TOOLS

Linux • Windows • Git • SQL • Docker • CI/CD
VirtualBox • Vagrant • GDB • Jinja • Arduino
Ghidra • Zeek • LTspice • LabView
Intel Quartus Prime

DESKTOP

Word • Excel • PowerPoint

EXPERIENCE

UCLOUVAIN | Teaching Assistant
September 2021 - Present | Louvain-la-Neuve, Belgium
- Computer System Security (Graduate)
- Computer Systems (Undergraduate)
- Programming Languages Paradigms (Undergraduate)
- Bases of Computer Science II (Undergraduate)

UCLOUVAIN | Developer and Course administrator
Summer 2021 | Louvain-la-Neuve, Belgium
- Updated the syllabus and created new exercises for a computer science course
- Extensively used Docker containers for tool configuration and development
- Extended the features of VSCode for the Oz programming language

UCLOUVAIN | Academic Tutor
Sept. 2019 - May 2021 | Louvain-la-Neuve, Belgium
- Supervised practical sessions of bachelor students
- Graded students' assignments
- Had meetings with teachers every week to manage the course

CITY JOB | Android Developer
March 2019 - June 2021 | Louvain-la-Neuve, Belgium
- Worked with 3 other students on the creation of a start-up
- Developed an Android application to be launched on the Play Store
- Participated in the 11th edition of Mind & Market, to present the start-up to potential investors

EDUCATION

PHD IN COMPUTER ENGINEERING
UCLouvain | ICTEAM - INGI
Expected grad. January 2026 | Louvain-la-Neuve, Belgium
F.R.S.-FNRS candidate
Research topic: Smart Home network security

MS IN COMPUTER ENGINEERING
UCLouvain | Louvain School of Management
Grad. June 2021 | Louvain-la-Neuve, Belgium
Major: Networks & Security
Languages: courses fully in English
Summa Cum Laude (Cum. GPA: 87.6 %)

BS IN ENGINEERING
UCLouvain | Louvain School of Management
Grad. June 2019 | Louvain-la-Neuve, Belgium
Major: Computer Engineering | Minor: Electrical Engineering
Languages: core courses in French, English language courses
Magna Cum Laude (Cum. GPA: 79.3 %)

SECONDARY SCHOOL
Institut Saint-Joseph
Grad. June 2016 | Ciney, Belgium
Majors: Mathematics & Science
Languages: core courses in French, Dutch in immersion classes, English
Excellence prize (Best student of the promotion)