Antoon Purnal *(Toon)*

PHD RESEARCHER IN SECURITY. PIVOTS QUICKLY. ENJOYS PUBLIC SPEAKING.

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Education

PhD Candidate (FWO Fellow) · imec-COSIC, KU Leuven

MICROARCHITECTURAL SECURITY · SPECIALIZED CRYPTOGRAPHY · *Oct. 2018 - PRESENT*

Security Research with publications in top-tier (A*) venues.
Thesis Student Mentor, Teaching Assistant, Ombudsperson.

MSc, Electrical Engineering · KU Leuven

EMBEDDED SYSTEMS · SUMMA CUM LAUDE (86%) · MSc THESIS PRIZE 🏆 · *Sept. 2016 - Jun. 2018*

MSc Thesis: *Protecting* KECCAK *against combined side-channel and fault attacks.*
Student teaching for EM Waves, Calculus III, Problem Solving.

BSc, Engineering Science · KU Leuven

ELECTRICAL ENGINEERING - COMPUTER SCIENCE · MAGNA CUM LAUDE (80%) · *Sept. 2013 - Jun. 2016*

Selected Publications

USENIX SEC '22 · *Double Trouble: Combined Heterogeneous Attacks on Non-inclusive Cache Hierarchies*

AR: 18% 📰 (**Antoon Purnal**, Furkan Turan, Ingrid Verbauwhede)

ACM CCS '21 · *Prime+Scope: Overcoming the Observer Effect for High-Precision Cache Contention Attacks*

AR: 22% 📰⚡🎥 (**Antoon Purnal**, Furkan Turan, Ingrid Verbauwhede)

IEEE S&P '21 · *Systematic Analysis of Randomization-based Protected Cache Architectures*

AR: 12% 📰⚡🎥 (**Antoon Purnal**, Lukas Giner, Daniel Gruss, Ingrid Verbauwhede)

Experience

Security Research Intern

INTEL CORPORATION · *Jun. 2022 - Aug. 2022*

I joined the forward-looking Intel Labs for microarchitectural security research.

Exchange Researcher

NATIONAL CHIAO TUNG UNIVERSITY (NCTU), TAIWAN · *Jul. 2017 - Aug. 2017*

I designed real-time and low-power cryptographic hardware, with tape-out in TSMC 90nm.

Cyber Security Intern

SWEEPATIC · *Oct. 2016 - Apr. 2017*

I performed OSINT attack surface research and delivered a training session for a customer.

Educational Volunteer & Teamleader

YOUTH WORK · *Jul. 2015 - Dec. 2019*

As a volunteer, I lead and trained future generations of playworkers.

Skills

Programming	Software: **Python, C, ARM/x86/MIPS Assembly**	
	Hardware: **VHDL, Verilog**	Enablers: **LaTeX, Beamer, Git, Matlab**
Languages	Proficient: **Dutch, English**	Basic: **French, German, Spanish**
Miscellaneous	Driver's license. Former lead guitarist in local band and university big band.	