Antoon Purnal *(Toon)*

PhD in Security. Pivots quickly. Enjoys public speaking.

✉ toon.purnal@gmail.com | 🏠 antoonpurnal.github.io | in toonpurnal

Education

PhD, Electrical Engineering · **FWO Fellow** · **COSIC, KU Leuven**
Greatest distinction with congratulations of the jury 🎓   *Oct. 2018 - Jun. 2023*
PhD Thesis: *Cache Side-Channel Attacks on Existing and Emerging Computing Platforms.*
Microarchitectural security research with publications in flagship (A*) security venues.
Thesis student mentor, teaching assistant, ombudsperson.

MSc, Electrical Engineering · **KU Leuven**
Embedded systems · Greatest Distinction 🎓 · 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.

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.

Student 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	CHES 2022 Rump Session Award. Former lead guitarist in local band and university big band.	