

MACIEJ SKÓRSKI

Committed to advancing R&D through academic and industrial expertise.

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EXPERIENCE

ZK/GPU Researcher **Maya-ZK** 2023–2024



- Prototyped and benchmarked GPU-accelerated algorithms for elliptic curves.

Visiting Researcher **Laboratoire Hubert Curien** 2023–present France



- Investigated security of oscillatory-based randomness generators through statistical modelling and signal processing techniques.
- Developed validation pipelines in MLFlow, awarded at CHES'23.

Senior Machine Learning Researcher **Sensyne Health** 2021–2022



- Developed Bayesian deep learning models for COVID-19 and CHF, informed by an extensive review of medical literature.
- Built pipelines for analysing healthcare data with Azure and MLFlow.

R&D Specialist **University of Luxembourg** 2019–2021 Luxembourg



- Improved SOTA of dimension-reduction techniques,
- Analysed and implemented variants of second-order optimization for deep neural networks,
- Analysed variants of Word2Vec for better speed and accuracy,
- Improved performance of inference for probabilistic databases.

Machine Learning Consultant **DELL** 2018–2019 Austria/Slovakia



- Developed stratified A/B tests with Bayesian modelling,
- Improved data pipelines, including web scrappers and HIVE queries,
- Delivering statistical insights on e-commerce data,
- Configured, trained and maintained chatbots (in RASA).

Predocotrual Researcher **ISTA** 2016–2018 Austria



- Improved quantitative understanding of statistical models and estimators of (pseudo)randomness, as a part of TOCNeT ERC Grant.
- Established new applications of statistical learning and information-theory to cryptography.

Senior Data Analyst **Ernst Young** 2015–2016 Poland / UK / UAE



- Automated process of tracing operations of sanctioned entities (scripting and SQL on client-data).
- Implemented advanced compliance tests for tax and audit.
- Extended audit tools with advanced text-mining techniques (variants of fuzzy matching implemented in C# extensions of SQL).

Analyst **Centre for Industrial Math and System Engineering** 2008–2012



- Co-authored merit reports within internal and external R&D projects
- Co-supervised projects within research internship programs and workshops

PHILOSOPHY

Avoid false-negatives: better to try and fail than fail to try!

PROUD OF



IMO Medal
which underscores my passion to mathematics.



ML R&D 0.5mIn EUR Grant
acquired from FFG through collaborative work with startup co-founders.



Community Contributions
through open-source discussions and patches, university teaching and academic peer-reviewing.

EDUCATION

Ph.D. in Computer Science
University of Warsaw June 2023

Thesis title: Pseudoentropy

M.Sc. in Mathematics
University of Warsaw October 2012

TECHSTACK

• Proficient with Python (overall 10+ years, covering scrappers, database scripting, front-end, machine-learning frameworks, cloud deployment)

• 8+ years of data-engineering experience, including tabular, textual, graphical and time-series data.

• Proficient with SQL (including query optimization) in various dialects (5+ years of work with Postgress, Hive, ClickHouse)

• Proficient in cloud development with 3+ years of experience, covering developing Python

RESEARCH FUNDING ACQUIRED

Technical Lead **FFG Grant "Meal Demand Forecast"**



Shaped and successfully defended the scientific part of an R&D grant proposal worth 0.5mln EUR with Schrankerl GmbH.

Principal Investigator **National Science Centre Grant "Pseudoentropy"**



Ranked first among computer science proposals.

ACADEMIC AWARDS



Medal, International Mathematical Olympiad

2006 VIII, bronze medal



Best Paper, Theory of Cryptography Conference

2016 X, best student paper (ML methods of simulating adversaries)



Best Repo, Cryptographic Hardware and Embedded Systems

2023 IX (awarded for high-quality interactive repository)

RESEARCH VISITS

Visiting Scholar **University of Singapore, CQT**  2018 II, 2019 II



- Improved understanding of leakage models for cryptography
- Developed better techniques for randomness estimation




Visiting Scholar **Boston University, Harvard University**  2017 VI-IX



- Developed ML-inspired techniques for security proofs.
- Established impossibility results for cryptographic reductions.

PUBLICATIONS

2013–present **Scientific Conferences and Journals**

 I regularly publish on a wide range of computer science topics.  My portfolio includes several papers on security, algorithmic and machine-learning topics at first-tier conferences.  For details, visit my research profiles.

COMMUNITY SERVICE

Scientific Conferences and Journals  2013–present



Served 20+ times as a reviewer, including top journal and conferences (Journal of Machine Learning Research, ICALP, EUROCRYPT, AISTATS, UAI). PC Member of UAI (2022,2023) and ICDM (2024).


TEACHING


University of Warsaw, University of Luxemburg, Polish Academy of Sciences

 2012–present

I have served in various teaching roles, including university classes on calculus (2x), databases (1x), software-engineering (2x) and machine-learning (2x), and leading several educational projects for undergraduates and graduates.

applications in Azure, AWS, GCP and Scaleway.

 Proficient in software for statistical analysis and machine-learning with 6+ years of experience, including R libraries, Scikit-learn, TensorFlow, PyTorch.

 Proficient in core DevOps tools with 3+ years of experience, including JIRA, Git, CI/CD pipelines, MLFlow, Neptune, and dbt.

Python C++ Cloud Computing

Statistical Analysis Algorithms

Machine Learning Cryptography

Information Theory

STRENGTHS

Persistence Eye for detail

Cross-functional Collaboration

INTERNSHIPS

Developer **Adamed**  2015 VI-IX



Developed a web application for the R&D department.

Developer **Orange**  2014 VI-IX



Prepared technical documentation for IT network projects.

LANGUAGES

English ● ● ● ● ●

Polish ● ● ● ● ●

German ● ● ● ● ●