Lukasz Michalski

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EXPERIENCE

CERN | Research Student — Sep 2024 - Present

- Working on heterogeneous algorithms and HPC pipelines for data acquisition and rare physics analyses.
- Focused on W boson decays, jet clustering with computer vision, and ML-based jet tagging.
- Core developer of fast ML inference library with PyTorch/Alpaka

INTEL | GPU Software Engineer Intern (AI/CV) — Dec 2023 - Aug 2024

- Contributed to AI-driven automatic detection of rendering issues in video streams
- Development of an anomaly detection system for large-scale GPU driver execution and benchmarking.

NOKIA | Software Developer Working Student — Dec 2021 - Nov 2023

- Contributed to development of an internal solution for eNB machine log analysis.
- Develop an in-house source code management system for SoC hardware solutions.

RESEARCH

PWR RACING TEAM | Autonomous System Engineer (RT14e & RT15e) — Sep 2023 - Present

- Core Researcher & Engineer of Formula Student autonomous system algorithms for RT14e and RT15e vehicles, including perception system, simultaneous localization and mapping, and path planning.

PWR RACING TEAM | Path Planning Engineer (RT13e) — Sep 2022 - Sep 2023

- Motion planning algorithms researcher.

WROCLAW UNIVERSITY OF SC. AND TECH. | Research Lead — Oct 2023 - Dec 2024

- Led research on parallel swarm optimization on heterogeneous architectures.
- Designed and implemented heterogeneous computing solutions, optimizing performance with parallel algorithms.
- Oral presentation of paper at 19th International Conference on Dependability of Computer Systems

SAMSUNG R&D INSTITUTE | Research Lead — March 2023 – July 2023

- Led a four-person team on semantic knowledge graph construction from technical documentation project.
- Developed NLP algorithms, and ML based knowledge extraction using RDF and knowledge graphs.
- Responsible for system architecture design and efficient pipeline.
- Presented research findings at a technology conference.

PUBLICATIONS

International Journal of Electronics and Telecommunications — 2025

Efficiency Analysis of Parallel Swarm Intelligence Using Rapid Range Search in Euclidean Space

19th International Conference on Dependability of Computer Systems — 2024

Parallel Swarm Intelligence: Efficiency Study with Fast Range Search in Euclidean Space (Oral Presentation)

EDUCATION

WROCLAW UNIVERSITY OF SCIENCE AND TECHNOLOGY

Master of Science | Artificial Intelligence — July 2025

Thesis: *Real-time and Quasi-Real-Time Data Acquisition and Physics Analysis Algorithms for the Level 1 Trigger System*

Bachelor of Eng. | Computer Engineering (Computer Vision & Graphics) — Oct 2020 - Jan 2024

Graduated with Honors

Thesis: *Dense Graph Network-based Path Planning Algorithm with Geometric Raceline Optimization*