Adam Deryło

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Education

Warsaw University **Oct. 2020 – Sep. 2024**
BSc in Computer Science *Warsaw, Poland*

- Top-rated Computer Science undergraduate program in Poland according to the QS ranking.
- Rector's scholarship for academic achievements.

Warsaw University **Oct. 2020 – Sep. 2024**
BSc in Cognitive Science *Warsaw, Poland*

- Interdisciplinary program organized by the best faculties in Poland in their respective domains.
- Collaboration with the Nencki Research Institute.

Professional experience

Taiwan Semiconductor Manufacturing Company **Jul. 2023 - Sep. 2023**
Software Engineering Intern — Pytorch, Scikit-learn, Python *Hsinchu, Taiwan*

- AI Application and Platform Development Team responsible for the automation of fab processes.
- Developed a custom BLIP2-based model architecture for photomask defect classification and captioning.
- Worked on a generative model for text-to-image generation of rare photomask defects.
- Devised an asynchronous multistage data pipeline optimizing for efficient VRAM usage and throughput.
- Ranked top 8 out of more than 80 interns in the final intern project competition.

Goldman Sachs **Jun. 2022 - Aug. 2022**
Summer Analyst — Redis, Java, Procmon, Golang *Stockholm, Sweden*

- Global reconciliations team, daily processing of over 80 million trade and position data entries.
- Collaborated on optimizing caching performance and reliability of data loading processes.
- Worked on extending database performance limits with intelligent cache priming based on Change Data Capture.
- Developed a Redis cache monitoring tool suite to speed up emergency debugging and development cycles.

ReSpo.Vision **Jul. 2021 - May. 2022**
Software Engineer Intern — Python, PostgreSQL, Git, SQL, Pytorch *Warsaw, Poland*

- Participated in over 40 sprints under the Scrum development framework in a rapidly growing team.
- Worked on a back-end implementation of a betting hints generator that withstood 100k API calls daily.
- Created a deep learning NLP module for context-dependent noun declination.

Bain & Company **Mar. 2021 - Apr. 2021**
Spring Intern — Nielsen, Ipsos *Warsaw, Poland*

- Supported a consulting team in the area of wood market data analysis.
- Participated in a team-based business case study under the supervision of a dedicated mentor.

Projects

Bachelor thesis at Nencki Institute | *Python, Pytorch, Tianshou* **Nov. 2023 - Ongoing**

- Collaborated on computational neuroscience research at the Nencki Institute of Experimental Biology.
- Enhanced a novel reinforcement learning model of the dopaminergic circuit.
- Developed and optimized learning rules for Spiking Neural Networks, improving convergence of SNN based agents.
- Contributed to extensive literature review done by the research team.

Bachelor thesis with NVIDIA | *C++, CUDA, CMake, Python* **Oct. 2022 - Jun. 2023**

- Worked with NVIDIA DALI team on accelerating image decompression on GPUs.
- Contributed a module to the open-source DALI library, improving the performance of the FITS decoder.
- Worked with hardware features such as GPU Direct Storage to improve performance over the baseline CUDA kernel.
- Devised a testing & profiling pipeline to allow for benchmarking various approaches to optimization.
- Showcased the result by rewriting NASA's Coronal Hole Semantic Segmentation pipeline and achieving a 70% speedup.

Deep Neural Networks | *Python, Pytorch, Tensorboard* **Nov. 2023 - Jan. 2024**

- Recreated implementations of several breakthrough machine learning publications.
- Implemented following papers from scratch:
  - "The Reversible Residual Network: Backpropagation Without Storing Activations"
  - "PaDiM: a Patch Distribution Modeling Framework for Anomaly Detection and Localization
  - "Attention is all you need"
  - "Bigger, Better, Faster: Human-level Atari with human-level efficiency"
- Scored highest mark awarded to the best 5% of course participants.

C interpreter | *Haskell, GHC, Cabal, BNFC* **Apr. 2023 - Jun. 2023**

- Created an interpreter for a C-like language, called Latte.
- Implemented support for scoping, functions, multidimensional arrays, classes, and more.
- Utilized monad transformers to create various features such as a garbage collection mechanism for the language.

Minix OS | *C, Qemu, Bash, rsync* **Apr. 2023 - Jun. 2023**

- Developed various custom features for the Minix OS, which required extensively modifying the OS kernel.
- Implemented a theoretically optimal scheduler, improving the performance of the system.
- Devised an add-on for the virtual file system that introduced a file exclusivity mechanism.

Distributed alerting system | *gRPC, Google Cloud Platform, Python* **Nov. 2022 - Jan. 2023**

- Developed a scalable microservice system for monitoring services and running complex alerting routines.
- Utilized gRPC, PubSub queues, Cloud SQL, and other tools to satisfy SLO requirements for 10k services.
- Project supervised by Google employees.

Extracurricular

2nd Place, BEST Hacking league 2023 Hackathon
Member, Bain & Company Champions Class 2023
1st Place, Goldman Sachs EMEA 2022 Hackathon

Skills

Programming Languages: Python, C/C++, Haskell, Java, JavaScript, R, Ocaml, Go, SQL
Technologies: Git, Linux, Jira, Redis, Docker, Pydantic, Huggingface, React, Cloud Run
Natural languages: English (C2), Polish (Native), Spanish (B1)