Michal Grudzien

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EDUCATION

2023-2024	**University of Oxford MA: Mathematics & Computer Science**
2020–2023	**University of Oxford BSc: Mathematics & Statistics - Top 5 Ranking**

- Top Ranking: Consistently performed exceptionally well, achieving an overall **top 5 ranking** out of 42 students during the Bachelor's degree program.
- Relevant Coursework:
    - Statistical Machine Learning, Probability Measure and Martingales, Statistical Inference, Numerical Analysis, Complex Analysis, Simulation and Statistical Programming, Graph Theory, Functional Analysis, Linear Algebra, Integration, Differential Equations, Calculus of Variation
- Dissertation supervised by **Professor Jakob N. Foerster**.

2020–2024	**Palgrave Brown Scholarship (2020-2024):**

- This highly competitive scholarship is granted by Oxford to exceptional students, with only one award available for Eastern Europe.

ACHIEVEMENTS

2023	**1st Author Publication at AISTATS-2023- "**Can 5th Generation Local Training Methods Support Client Sampling? Yes!" Paper /FLOW seminar/ Slides
	1st Author Paper at FL-ICML-2023- "Improving Accelerated Federated Learning with Compression and Importance Sampling."Paper
2019	**National Mathematical Olympiad –** Laureate title and in top 20
2018	**Physics Olympiad** - Semi-finals
2018	**National Mathematical Olympiad** - Finalist and in top 60
2017	**Junior Mathematical Olympiad** - Finalist title and in top 50
2016	**Junior Mathematical Olympiad** - Laureate title and in top 20

EXPERIENCE

Summer 2023	**KAUST Research Internship with Prof. Jürgen Schmidhuber**

- Investigated novel applications of NLP/LLM, including ChatGPT, for addressing Reinforcement Learning challenges.
- Co-authored a paper submitted to AAAI24 that advances credit assignment techniques in function value iteration, a fundamental component of Reinforcement Learning.

Summer 2022	**KAUST Research Internship with Prof. Peter Richtarik**

- Developed and analysed "**5GCS**," a state-of-the-art method for accelerated communication with local training and client sampling support.
- Completed Prof. Richtarik's comprehensive "SGD" course covering the latest stochastic gradient-based optimization methods in various convex settings.

2021-2022	**Oxford "Engineers without borders" society Project.**

Worked in a team of three on Kaggle, focusing on bioimage classification and segmentation, using techniques like U-net, Otsu method, and PyTorch.

July-Sep 2021	**Volunteer Research** Supervised by Yaodong Yang

I gained insight into Bilevel Optimization problems and research methods, marking my first exposure to research work.

2019	**IT FOR SHE** [Volunteer] **– Robotics and Programming Workshops**

- Designed workshops to combat gender inequality in STEM and promote women as computer science specialists.
- Organised and conducted 20 hours of workshops in programming, robotics, and new technologies for underprivileged children in rural areas.

MISCELLANEOUS

IT	**Programming languages:** C++, Python, LaTex, MATLAB, R
Soft skills	**Top soft skills:** Acting on feedback, communication, and being a fast learner.