ALEKSANDER GORNIK

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EXPERIENCE

HSBC — Cracow, Poland
Software Engineer — *July 2025 - Present*

- **Messaging Platform for HSBC Banking App**: Development of back-end software in Java using Spring Boot.

SumUp — London, UK
AI Engineering Intern — *March 2025 - May 2025*

- **Lead-Scoring Model**: Built XGBoost ranking model scoring postcode-based business leads; lifted F1 from $0.22 \rightarrow 0.65$ via SMOTE, guiding reps to high-value prospects.
- **Engineered feature-enrichment pipeline**: Removed duplicate & invalid lead records, merged Companies House + Google Places attributes, and generated 240 engineered features using scikit-learn (incl. multi-hot encoding of business types); serialised model artifacts for production inference.
- **Designed, built & shipped Sidekick lead-gen extension**: Python/FastAPI microservice containerised with Docker and orchestrated by Kubernetes on AWS; Grafana + Argo dashboards for observability; TypeScript/Circuit UI frontend surfaces personalised business insights—projected to lift active field sales reps $56 \rightarrow 61$ % and save £130 k per year.
- **Developed GPT-4 business-insights agent**: Engineered a specialised prompt chain that digests business metadata into one-page pitch briefs with hardware upsell suggestions; iteratively compressed the prompt to halve token usage, cutting costs by 50%.

Cambridge Consultants — Cambridge, UK
Engineering Consultant Intern — *Aug. 2022 - Aug. 2023*

- **CI/CD & Test-Automation for Sat-Com Client**: Engineered GitLab CI/CD from scratch on VMware-hosted Linux VMs and automated 25 previously manual regression tests with PyTest—providing the project's first test-automation infrastructure.
- **Biomedical Imaging using Magnetic Spectroscopy**: Led end-to-end R&D of a magnetic-spectroscopy system that detects dead cells in vivo: designed excitation coils, modelled nanoparticle behaviour, and built Python/NumPy FFT signal-processing pipeline; delivered a working bench prototype and pitched it to investors.
- **Automated Testing of Lithium Ion Batteries**: Authored Python code for safe Li-ion charge/discharge down to 1.2 V, enabling unattended cycling of six batteries in parallel and reducing test turnaround time.

Yahoo — London, UK
Software Engineering Intern — *Summer 2020*

- **Ad Auction Engine**: Developed Python / Django ad-auction engine with MySQL persistence and real-time bid-ranking logic; delivered a working MVP under agile workflows using Git and Linux.

EDUCATION

loughborough University — loughborough, UK
BEng in Electrical and Electronic Engineering; 1st Class Honours — *Sept. 2020 – July. 2024*

- **Thesis**: Application of Graph Neural Networks to Simulate the Airway Flow in the Lungs

PROJECTS

- **TinyML Inference on STM32**: Benchmarked CNN models for memory utilisation and execution time on STM32F7
- **Dancing Robots**: Programmed an ESP32 to decode ultrasound commands into synchronised dance routines; demoed in robotics competition.

TECHNICAL SKILLS

- **Languages**: Python, C++, SQL, Typescript

- **ML**: PyTorch, scikit-learn, pandas, NumPy

- **Cloud/DevOps**: AWS(ECR), Docker, Kubernetes, Github Actions, GitLab CI/CD

- **Tools**: Grafana, FastAPI, Argo, DBeaver, Snowflake, Cursor, Git