

SERGEY ORLOV

SENIOR DATA SCIENTIST | PRODUCTION ML | DATA ENGINEERING

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PROFILE

Data scientist and technical leader with a PhD and a background in scientific computing. Architect and hands-on owner of production credit decisioning and analytics platforms, connecting financial-data engineering, calibrated risk models, explicit policy, and reliable software delivery. Experience spans model development, deployment, evaluation, and ongoing operation.

PROFESSIONAL EXPERIENCE

Data Scientist | Cashco Financial

April 2024 - Present | Calgary, Canada

- **End-to-end platform ownership.** Architected and own a production credit decisioning platform, from financial-data ingestion and feature engineering through ML scoring, policy orchestration, deployment, and monitoring.
- **Risk modeling.** Productionized routed, calibrated risk models and engineered transaction and behavioral features. Separate model estimation from decision policy so modeling and business rules can be evaluated and maintained independently.
- **Evaluation and explainability.** Implement champion/challenger evaluation, shadow scoring, and monitoring. Integrate SHAP-based explanations and reason codes with versioned decision evidence to support review and investigation.
- **Production engineering.** Build and operate Python/FastAPI services using Docker and Azure, with CI/CD, regression validation, versioned releases, structured logging, and traceable decisions.
- **Document intelligence.** Build document-processing workflows that combine extraction with explicit quality gates, financial-consistency checks, and review paths for uncertain or incomplete inputs.
- **Analytics engineering.** Architected an Airflow/dbt analytics platform with curated data models and Metabase reporting; own ingestion, transformations, data quality, and ongoing platform maintenance.

Data Scientist | Cybera Inc.

October 2023 - March 2024 | Calgary, Canada

- Designed and deployed entity-resolution workflows using transformer embeddings, Siamese neural networks, and retrieval to match unstructured records.
- Scaled processing on GCP with Docker, multiprocessing, GPU acceleration, and distributed execution.

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LEADERSHIP & SCIENTIFIC COMPUTING

Director of Data Science & HPC | Tomsk State University

May 2016 - December 2022 | Tomsk, Russia

- Established and led a data science laboratory, translating applied ML research into services and mentoring students in data science and software engineering.
- Led engineering delivery and operations for shared HPC infrastructure; guided architecture, Linux platform reliability, and research-computing services.

Computational Modelling & ML Researcher | Tomsk State University

February 2012 - May 2016 | Tomsk, Russia

- Developed scientific simulation and predictive-modeling software in C++ with OpenMP and MPI; applied neural networks and optimization methods to engineering problems.

SELECTED PUBLIC ENGINEERING WORK

Independent synthetic labs and generic engineering examples. Repository links provide inspectable code, evaluation approaches, and design discussions.

Open Decisioning Lab - Calibrated synthetic risk modeling, typed API contracts, and an explicit policy layer.

Default Risk Lifecycle Lab - Chronological evaluation, label maturity, drift diagnostics, and monitoring.

Document AI Reliability Lab - Synthetic extraction benchmarks and quality gates; simulated providers by default.

Cashflow Intelligence Lab - A compact prototype for synthetic transaction normalization and behavioral features.

Analytics Engineering Examples - Generic Airflow/dbt examples and design discussions for analytics platforms.

TECHNICAL FOUNDATION

ML & evaluation: Python, SQL, scikit-learn, XGBoost, LightGBM, CatBoost, calibration, SHAP, champion/challenger evaluation, monitoring.

Production: FastAPI, Docker, Git, CI/CD, Linux, Azure, GCP, automated validation, APIs, observability.

Data & applied AI: Airflow, dbt, PostgreSQL, MS SQL, MySQL, PySpark, Metabase, document AI, transformer embeddings, retrieval, FAISS.

EDUCATION

Master of Data Science and Analytics | University of Calgary | 2023

PhD, Physical and Mathematical Science | Tomsk State University | 2012