David Rozycki

Tools & Technologies
Programming: Python, R/RStudio

Cloud & Infrastructure: Microsoft Azure, Google Cloud Platform, Firebase, Docker

AI & ML Frameworks: PyTorch, TensorFlow, OpenAI API, Gemini, Claude

DevOps & Workflow: Git, CI/CD, RESTful APIs, FastAPI, Airflow, Data Pipelines

Data Handling: Pandas, NumPy, scikit-learn, Regex, Document Parsing (PDF, OCR)

Skills:
Multimodal & Generative AI: Document understanding, text–numerical fusion, computer vision integration

Distributed Systems & Scalable Infrastructure: Cloud-native deployment, asynchronous pipelines, performance optimization

AI Product Development: End-to-end design from prototype to production, human-in-the-loop validation

PROFESSIONAL EXPERIENCE

09.2024 – **present** **Technical Co-founder of Nexly**
AI-Driven Audit & Accounting Automation Platform

Core Platform & Impact:
Co-founded Nexly, an AI-driven platform automating financial statement reviews for auditors and accountants. Built the complete technical foundation and engineered core validation systems, processing hundreds of financial documents monthly with 90%+ accuracy.

LLM Evaluation & Reliability:
- Designed and implemented a hybrid algorithmic-AI validation architecture combining rule-based verification with LLM reasoning (utilizing all large models) to solve complex financial statement validation problems
- Achieved 90%+ accuracy on mathematical accuracy validation across diverse financial statement formats with 70% reduction in false positives through intelligent filtering and statistical thresholds
- Developed deterministic pattern detection algorithms with LLM-powered formula extraction agents, enabling cost-effective multi-model strategy (fast models for straightforward cases, automatic escalation for complex reasoning)

Agentic Systems & Multi-Step Reasoning:
- Built a context-aware matching system for internal consistency and cross-year validation using LLM-powered semantic analysis with normalized value-based algorithmic filtering
- Engineered specialized AI agents for distinct evaluation tasks (mathematical accuracy validation, table structure normalization, cross-section/cross-year matching) with procedural step execution, error handling, and frontend + database integration
- Achieved 85%+ precision on cross-year matching despite structural reorganizations, label variations, and value transformations—demonstrating robust evaluation of complex financial statement patterns

Hybrid Algorithmic-AI Methodology:
- Combined algorithmic candidate detection (coordinate-based mapping, pattern normalization, automatic verification) with LLM-powered formula extraction and validation agents
- Implemented iterative refinement with a multi-model escalation strategy—fast models for straightforward validation, automatic escalation to more powerful models for complex reasoning requiring deeper analysis
- Built an advanced table normalization system with Claude AI vision integration to handle merged cells, complex layouts, and irregular structures—improved OCR extraction accuracy from 60% to 90%+ on complex financial tables

Scalable ML Infrastructure & Cloud Architecture:
- Architected and implemented event-driven document processing pipeline with microservices-based AI agent orchestration using Firebase, Azure, and Google Cloud Platform (Vertex AI, Document AI)
- Designed async-first backend in Python, enabling horizontal scalability and independent deployment of validation components; processing documents end-to-end in under 2 minutes
- Developed unified multi-provider LLM service (OpenAI, Anthropic, Google) with automatic provider fallback, retry logic with exponential backoff, and rate limiting—reduced API costs while maintaining near-100% availability

Financial & Quantitative Modeling: Credit risk analytics, stochastic simulation, algorithmic validation

Cross-functional Leadership: Collaboration with data, infra, and product teams; investor & stakeholder communication

Innovation & Rapid Prototyping: Agile experimentation, ablation analysis, MVP delivery under uncertainty

Languages

- English, native
- Polish, native
- German, basic, continued development

Websites

https://nexly.tech/
https://dawidrozycki.github.io/

Additional characteristics

- US & Polish (EU) dual Citizen
- Permit B for work in CH

Personal data

Year of birth
1990

Telephone
+41-76-594-94-76

Email
rozyckd@gmail.com

Location
Kanton Zurich, Switzerland

Reliability & Production Readiness:

- Maintained nearly 100% uptime over 12 months with comprehensive error handling, automated retries, and robust monitoring (Sentry integration)
- Processes hundreds of documents monthly and tens of thousands of AI agent executions at scale with deterministic reliability
- Established rigorous code quality standards: pre-commit hooks, Ruff linting, comprehensive pytest coverage, and PR review process

Cross-Functional Collaboration & Product Impact:

- Shaped product roadmap around auditor pain points; co-authored business plan and pitch deck for investor outreach
- Partnered with CTO on architectural decisions and system design; collaborated with front-end and other domain experts to translate evaluation results into product improvements
- Led 3-person bootstrapped team from concept to production-ready system over 18 months

Technical Resources: https://dawidrozycki.github.io/nexly

04.2022 – 09.2024 **Data Scientist / DA in Global (Credit) Portfolio Management, Data Strategy & Group Analytics team**
Credit Suisse – Zurich, Switzerland

- Conducted advanced quantitative analysis of credit concentration riskto evaluate risk measurement accuracy and concentration patterns across client, single-name, industry, and country dimensions
- Developed and refined statistical frameworks for concentration analysis with rigorous validation and attestation processes to ensure model reliability
- Authored RMarkdown reports synthesizing complex analytical findings for senior executive committees
- Established reproducible reporting infrastructure with GIT versioning for transparency and methodology reproducibility
- Maintained and improved Python/R codebases with robust version control for security, transparency, and reproducibility of analytical methods
- Performed ad-hoc quantitative analysis and model validation supporting senior risk decision-making

05.2020 – 12.2021 **Data Scientist in the Treasury-Liquidity Modelling & Platforms Department**
Standard Chartered Bank – Warsaw, Poland

- Led IBOR-transition workstream: designed and implemented risk-free rate (RFR) measurement calculators with validation frameworks for regulatory compliance
- Developed IRRBB embedded option models using Python (quantlib) with Hull-White calibrated parameters; performed model validation and sensitivity analysis
- Replicated and validated pricing methodologies for Bermudan swaptions and interest rate derivatives
- Participated in model redevelopment, including comprehensive validation and attestation processes

05.2018 – 04.2020 **Specialist in the Market Risk Management Department**
PKO BP Bank – Warsaw, Poland

- Developed valuation models and automated tools for complex derivatives (vanilla and exotic options, commodity swaps, FX products) with rigorous accuracy validation
- Led development of AVA (Additional Valuation Adjustment) calculation tools; ensured model quality, auditability, and production readiness
- Implemented FRTB Market Risk solutions with comprehensive testing and validation frameworks
- Monitored risk limit utilization with quantitative analysis supporting risk governance

02.2017 – 04.2018 **Specialist in the Market Risk Management Department**
PGE – Warsaw, Poland

- Quantified market risk exposure across energy, gas, CO2, FX, and commodity products; developed hedging strategies with mathematical rigor
- Built Python/VBA optimization tools for energy production and sales portfolio management
- Developed regression models for weather sensitivity risk assessment; contributed to new product development and client acquisition

PROJECTS

2025 **nextideas.app**
I built a site that fixes the 'naming heartbreak' for startups. Most founders waste hours brainstorming names, only to find the domains are taken. My platform suggests great names and verifies the domain availability at the same time.

2020 **Autonomous fever detection using IR camera**
Using a conventional camera, infrared camera, and black-body (i.e., temperature reference device), I have created a utility in Python that can detect a person's face and check whether this individual has a high temperature (fever).

EDUCATION

2026 - **ETH Zurich,**
Course: Enabling Innovation with Data Science – achieving impact with AI

2017 - 2018 **University of Warsaw,**
*Postgraduate in **Data Science** in business applications, programming in R*

2013 - 2015 **SGH - Warsaw School of Economics,**
*Master's degree **in Finance and Accounting***

2009 - 2013 **Cracow Institute of Technology,**
Bachelor's degree in Energetic Systems

CFA Institute, *Level 1 passed*
Chartered Financial Analyst Institute, Charlottesville, Virginia, USA