

Contact

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(LinkedIn)

Top Skills

Semantic Kernel

Microsoft Copilot Studio

LLM fine-tuning

Languages

English (Native or Bilingual)

German (Professional Working)

Polish (Native or Bilingual)

Certifications

Develop natural language solutions
in Azure

LangChain for LLM Application
Development

Time Series

Empower modern analytics and
business intelligence data cultures
with Excel, Power BI, MS Teams,
and SharePoint (8 modules Learning
Path)

Implement Generative AI
engineering with Azure Databricks

Mark (Marek) Michalski

Data Scientist & AI/ML Engineer | AI, DL, LLMs & AI Agents | Gen AI
& Automation | M.Eng., MBA, Ph.D.

Cracow, Małopolskie, Poland

Summary

Data Scientist & AI/ML Engineer at NorthGravity specializing in AI-driven solutions for the energy sector. I design and implement scalable AI models, enterprise-grade data pipelines, and Generative AI tools to drive automation, optimization, and decision intelligence.

With a background in engineering (B.Sc., M.Eng., University of Alberta) and a strong foundation in business and management (MBA, University of Alberta; Ph.D. in Management Science, AGH), I combine technical expertise with strategic insight to develop AI-powered solutions that enhance efficiency and profitability.

I have led projects applying both traditional ML/DL techniques (e.g., time series forecasting, predictive modeling, deep learning architectures) and modern AI approaches (LLMs, AI Agents, and automation tools) to data quality assurance, anomaly detection, commodity trading, portfolio valuation, and data pipeline automation. Passionate about bridging AI research with practical business applications, I stay at the forefront of industry developments to deliver impactful, scalable, and future-proof solutions.

Experience

NorthGravity

Senior Data Scientist – AI/ML/DL Focus

June 2023 - Present (2 years 8 months)

Chicago/Cracow

Since 2023, and as the most senior data scientist since November 2024, I have taken on leadership responsibilities, acting as the primary data science representative and key point of contact for multiple large industry clients.

- Led the design and implementation of an *LLM-based data quality assurance and anomaly detection tool*, which learns from sample data, proposes parsing and validation checks, and auto-generates implementation code.

- Conducted *exploratory data analysis (EDA)* and extensive *feature engineering* across diverse datasets (numerical, categorical, time series) to drive actionable insights and enhance model performance.
- Developed *commodity trading and portfolio valuation models* for electricity and natural gas markets, leveraging both traditional financial models and ANN-based approaches.
- Built *production-grade pipelines* for end-to-end workflows, covering data ingestion, preprocessing, analysis, modeling, and deployment of dashboards and visualizations.
- Delivered solutions using a robust tech stack: *Python, TensorFlow, CatBoost, AWS, Docker, Jira, Jenkins, Bitbucket*, and LLM frameworks like *OpenAI, Claude, CrewAI, LlamaIndex, LangGraph, and RAG*.
- Enhanced productivity and accelerated model development through extensive use of *LLM-based tools* (OpenAI, Copilot, Anthropic) to optimize workflows.
- Committed to continuous learning through mini-courses and self-study to stay at the forefront of emerging models and frameworks.

Omdena

Machine Learning Engineer

February 2023 - Present (3 years)

Omdena Challenge: Developing an Engine for Heart Failure Detection using Deep Learning

<https://omdena.com/projects/developing-an-engine-for-heart-failure-detection/>

AGH University of Science and Technology

Associate Professor

2007 - Present (19 years)

Teaching courses including on Data, Models and Decisions, Project Management and Entrepreneurship & Innovation - mostly in English at master's level, including MBA.

Cracow University of Technology

Researcher

2005 - 2006 (1 year)

Conducted research in the energy sector

Department of Energy, Government of Alberta

Senior Analyst

2001 - 2004 (3 years)

Edmonton, Alberta, Canada

Conducted extensive research and analysis on Alberta's multi-billion dollar power industry. Represented the Department of Energy in discussions with major stakeholders. Provided actionable policy solutions.

General Dynamics Mission Systems–Canada

Engineer Intern

1998 - 1998 (less than a year)

Calgary, Alberta, Canada

Engineering Student at General Dynamics Missions Systems working mostly on mine detection systems.

WorleyParsons

Engineer Intern

1997 - 1997 (less than a year)

Edmonton, Alberta, Canada

Engineering Student at CoSyn Technology (CoSyn Technology is a business unit of WorleyParsons Canada and provides engineering and project execution services to Syncrude's giant oil sands mining projects).

Imperial Oil

Engineer Intern

1995 - 1995 (less than a year)

Alberta, Canada

Education

University of Alberta

Master of Business Administration (MBA)

AGH University of Science and Technology

Doctor of Philosophy (PhD), Economics (in Management Science)

University of Alberta

Master of Engineering (MEng)

University of Alberta

Bachelor of Science (BS), Mechanical Engineering

Archbishop O'Leary High School (Edmonton, Canada)