

Contact

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(LinkedIn)

Top Skills

Machine Learning

Artificial Intelligence

Deep Learning

Languages

English (Native or Bilingual)

Spanish (Limited Working)

German (Native or Bilingual)

French (Limited Working)

Romanian (Native or Bilingual)

Thai (Professional Working)

Dan Oprisa, PhD

Research Scientist | energy based ai | dynamical data |
Bangkok Metropolitan Area

Summary

PhD in mathematical physics. 16 years building ML that ships. Now doing both at once. What I'm building: AI architectures where physics is the inductive bias — energy-based models, symmetry-aware architectures, geometric deep learning, dynamical systems. Not physics as metaphor. Physics as the actual structure of the model. If you're working on physics-grounded AI — let's talk. The career that got me here: 16 years leading AI and data science teams at fintechs and financial services, online and data platforms — close to production to know what breaks, senior enough to decide what gets built. Areas of strength include: • Physics-grounded AI: EBMs, symmetry-aware architectures, dynamical systems • ML at scale: NLP, time series, recommender systems, anomaly detection • Team leadership: hiring, coaching, and scaling ML organizations • Executive delivery: budgeting, KPI frameworks, stakeholder alignment

Experience

NullDeltaQ

Research Scientist, Physics-Informed AI

March 2024 - Present (2 years 2 months)

Null Space

Research program at the intersection of mathematical physics and fundamental AI. Investigates energy-based models, symmetry-aware neural architectures, and geometric deep learning as foundations for a new class of AI systems.

Honest

Head of Data Science

May 2022 - February 2024 (1 year 10 months)

Bangkok, Bangkok City, Thailand

Techcombank (TCB)

Head of Advanced Analytics and Innovation

December 2020 - May 2022 (1 year 6 months)

Hanoi, Hanoi, Vietnam

Bank-wide centralization of analytics: built & trained team from scratch. Hired hands-on leads, seniors, worldwide. New tech stack for distributed ML, large unstructured data. Launched following projects:

- Digital acquisition: driving partnerships with various data providers (One Mount Group, ManuLife, Google) for NTB users via hybrid CR models and AI-supported eKYC onboarding
- Retail business: various conversion models for Bancassurance, (unsecured) Lending, Credit Card; recommendation model for Next Best Offer, Channel Optimization, LTV, Churn prediction
- Risk: first bank-wide ML underwriting model deployed on AWS; models for fraud and AML detection
- Transactional network graph system for wholistic user embedding, creating superior recommender system for product propensity (and ML features as byproduct)

SCB – Siam Commercial Bank

EVP of Data Analytics & Machine Learning

December 2019 - November 2020 (1 year)

Bangkok Metropolitan Area

Overseeing Data Analytics and Machine Learning with focus on digital product development:

- Changed science culture to reflect fintech digital world; hire superstars, mentor team to a-players
- Set up projects to align with strategic direction: Digital engagement, AI customer intimacy, Hyper personalization, ML driven loan collections
- Introduced new tech stack - GPU cluster computing, Deep Learning - to drive existing models
- Enforced agile project management throughout, increased efficiency, end-to-end mentality

Agoda

5 years 4 months

Team Manager - Machine Learning

December 2017 - December 2019 (2 years 1 month)

Bangkok Metropolitan Area, Thailand

- Built data science team from scratch in SGP office, training, mentoring and leading

- Deployed multilanguage chatbot to production: from research to POC to product, handling ~100k chats per day in real time in 6 languages, covering various intents in customer service
- Validated, implemented distributed machine learning algorithms used for bidding, pay per click, ranking, caching optimisation, entity matching

Senior Data Scientist

September 2014 - November 2017 (3 years 3 months)

Bangkok Metropolitan Area, Thailand

- Leading project on unified approach to bidding optimization on various platforms worldwide
- Developed, implemented various ML algorithms for conversion, margin, pay per click, ranking
- Addressing business problems company-wide via cutting edge technology (Python, TensorFlow, Scala, Spark, Pipelines, GPU/CPU cloud computing)

ACE Group

Manager Data Analytics

October 2013 - August 2014 (11 months)

Thailand

- Leading data science effort in regional (SEA) pilot project for big data augmentation; multiple international stakeholders involved, negotiating terms and technology
- Developed, implemented various banking, retailer acquisition models; x-times lift in revenues
- Introduced and implemented new, cost-efficient software architecture solution for sustainable analytics
- Optimization and further development of life cycle analytics

THAI CARDIF LIFE ASSURANCE CO., LTD.

Vice President of Customer Analytics

June 2012 - October 2013 (1 year 5 months)

Bangkok, Thailand

- Build, train and manage Customer Analytics team company wide
- Developed, implemented company's first acquisition propensity model; further implemented retention strategy, portfolio segments, product affinity towards customer life cycle model;
- Designed, developed, implemented full-fledged persistency tool and sales report
- Cleaned, reconciled and enhanced Analytics Data Mart; integrated for company-wide usage

- Optimize interaction with multiple partners in terms of market and strategy constraints, present and expected profitability

Carpas Information Services

Head of Product Research

October 2010 - June 2012 (1 year 9 months)

Bangkok, Thailand

- Design, pricing and implementation of Thailand's first usage-based risk hedging product, using alternative factors and risk exposure (target market: 500,000 clients)
- Recruiting and managing a team of analysts, statisticians, actuaries; providing technical training and performance evaluation
- Developed, tested and implemented various algorithms related to real-time noise filtering, asset GSM-localization, customer profiles
- Responsible for quantitative issues company wide, reporting to the MD

Man Investments

2 years

Quantitative Analyst

July 2009 - August 2010 (1 year 2 months)

Zurich, Switzerland

Research conducted on the fund of hedge fund side including:

- Developed efficient quantitative fraud detection tool for hedge funds after Madoff case
- tracking hedge fund risk exposures
- Improved risk-mitigating mechanism of structured flagship product (AuM > \$10bn), while modeling underlying hedge fund

Furthermore

- engineering and simulation of bond and FX hedging methodology
- tail dependency of hedge fund returns
- worst loss design of process and simulation

Financial Engineer

September 2008 - June 2009 (10 months)

Zurich, Switzerland

Responsible for pricing, risk exposure, risky asset simulation

- Simulation of hedge fund returns: fitting mixture of distributions, calibration of style dependencies (copulas)

- Analysis of various risk measures (default, loss given default, etc), using e.g. stochastic credit models
- Unifying simulation approaches, i.e. Markov regime switching model and homogeneous processes
- Pricing of structured products using stochastic rates
- Risk analysis of losses through bond hedging
- Object oriented implementation of Monte Carlo simulation tool for usage with key investment products in Matlab

SAM Sustainable Asset Management

Quantitative Equity Analyst

November 2006 - July 2008 (1 year 9 months)

Zurich, Switzerland

Responsible for quantitative investment models and equity valuation

- Developed investment strategies in Matlab, based on factor models for portfolio management
- Designed and tested long/short investment product with focus on carbon exposure
- Developed pricing model of sustainability and financial performance, based on factor analysis - results used for quarterly valuation
- Equity valuation for energy/industrials sector: issuing buy/sell recommendation based on discounted cash flow models

Max-Planck-Institut für Theoretische Physik

Scientific associate

May 2005 - September 2006 (1 year 5 months)

- Analysis of low energy field theory for gluons in string interactions
- Found hidden structure encoded in Euler-Zagier sums encoded in Zeta numbers
- Computed hypergeometric functions in both representations - infinite sums and triple integrals

Education

École Polytechnique

PhD, Theoretical Physics · (2005 - 2006)

Ludwig-Maximilians-Universität München

PhD, Theoretical Physics · (2004 - 2005)

Humboldt-Universität zu Berlin

MSc Thesis, Theoretical physics · (2002 - 2003)

Technische Universität München

BSc, Undergraduate Studies, physics · (2000 - 2002)