Name	Ruud Hendrikx
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Nationality	Dutch
Date of birth	10/02/1984
Residence	Haarlem Area

Summary

Ruud is a result oriented, curiosity driven, highly motivated problem solver. He has a hands-on approach and an entrepreneurial mindset. His background is in interdisciplinary research studying complex systems with a specialisation in advanced matter and energy Physics.

With his broad background and interest, he can communicate across multiple levels, ranging from technical experts to business stakeholders. He has multiple years of research experience in top class data-driven research institutes as well as practical experience implementing Machine Learning solutions in business environments. Balancing added business value and technical feasibility, he is strongly focussed on finding opportunities for growth within the project and leading the team to commit to its goals.

As an experienced Python developer in the domain of Machine Learning and Data Science, with a natural focus on cross-discipline collaboration, he is best positioned at the intersection of the technical teams and the translation to the business problem at hand. Ruud has many years of experience in positions as the technical lead of the team with hands-on involvement, coaching, helping the team and its members to grow. Has extended experience in building teams by providing autonomy, increasing mastery and committing to purpose.

Work experience

Squad Lead Data Science

Eneco, Rotterdam, Netherlands

2024Q1 | 2023Q4

Team Lead ad interim responsible for hiring, building, and leading a team of Data Scientists at the digital department of Eneco to develop machine learning solutions that solve customer and business problems.

Team Building | Recruitment | Leadership | Strategy | Databricks | Azure DevOps | Python

Lead Product Developer Plant Simulation

Danieli Corus, IJmuiden, Netherlands

2023Q4 | 2023Q1

Development of a highly modular steel plant digital twin to simulate any operational scenario realistically and accurately in real time. Optimization of steel manufacturing for greenfield design and existing plants via steel plant simulation scenario analysis. Improve operational efficiency by maximizing throughput in capacity planning scenario. Building a digital shadow as the core of a decision support tool that identifies operational bottlenecks ahead of time.

Python | Simpy | Plant Simulation | Digital Twin | Gitlab | Azure DevOps

Team Lead Data Science

Royal Schiphol Group, Amsterdam, Netherlands

2023Q1 | 2021Q1

Creating models and simulations needed for the airport operational planning. Passenger departure flow simulations with the goal of integral optimalisation. Forecasting waiting time, predicting demand capacity bottlenecks in the operation. Predicting the main drivers of Schiphol throughput by modelling runway configuration and capacity, to determine inbound and outbound traffic and identify demand capacity bottlenecks that affect the whole operation.

Python | Spark | ML Ops | Capacity Forecasting | Passenger Simulation | Simpy | Gitlab CI/CD

Chapter Lead Data Science

ING, Amsterdam, Netherlands

2021Q1 | 2019Q2

Developing machine learning models to improve the scalability of the processes within the Collections department. Building and leading a team of data scientists and data analysts to make the department more data driven. Core achievements are the development of a likelihood to pay model, and a prevention model that is used to target customers that experience financial stress well before they are at risk of defaulting. Standardised model feature creation.

Python | Spark | SQL | ML Ops | Risk Segmentation | Kanban | Agile | GitLab CI/CD

Lead Data Scientist and Product Owner

Tele2, Amsterdam, Netherlands

2019Q1 | 2018Q3

Developing a solution to monitor and analyse mobile voice quality in the Tele2 4G network. Integrating call data records related to the voice call quality to perform root cause analysis. Building a project team of data engineers and scientists. Modelling call quality degradation and determine main contributing factors. Automate data ingestion pipelines on Hortonworks.

Python | SQL | Scala | Spark | Hadoop | Cloudera | Hortonworks | Scrum | Agile

Freelance Data Science Consultant

The Future Group, Zoetermeer, Netherlands

2022Q4 | 2018Q3

Independent data science consultant and partner at The Future Group in the Machine Learning division. Focus on data science, machine learning, artificial intelligence, data engineering, internet of things, smart cities and more in general the impact of information technology on society and the human condition. The Future Group division Trending Technologies is a partnership of IT experts working with new technologies, evaluating their advantages and disadvantages and helping our clients implement novel solutions and ways of working.

Python | Scala | Spark | Machine Learning | Data Science | Artificial Intelligence | Deep Learning

Machine Learning Engineer

Wärtsilä, Drunen, Netherlands

2018Q3 | 2018Q1

Building a generalised data pipeline for market prediction. In this project, a proof of concept data science model is transcoded into a client tailored Python module for pre-processing, feature engineering, and modelling. Creating a production ready market prediction toolkit.

Python | AWS | Machine Learning | Supervised Learning | Market Prediction | Scrum

Blockchain Developer

QNH, Amsterdam, Netherlands

2018Q3 | 2017Q4

Redesigning the contracting between QNH clients and contractors using Blockchain technology. Responsible for developing the smart contract architecture and implementation in Solidity. Implemented a smart contracting prototype on a private Blockchain based on Ethereum.

Ethereum | Solidity | Smart Contracts | Agile

Lead Data Science Consultant

PGGM, Zeist, Netherlands

2017Q4 | 2017Q1

Prototyping Data Science initiatives and developing new business models to optimise processes. Lead Data Scientist starting off one of the first Data Science teams within PGGM. Data science prototypes include call-centre forecasting, fraud detection, bankruptcy risk analysis, client profiling and micro-targeting for marketing purposes.

Python | SQL | Machine Learning | Lean Start-up | Business Model Canvas | Bayesian Statistics

Blockchain Developer Energy Sector

D-VAULT, Amsterdam, Netherlands

2018Q3 | 2018Q1

Prototyping a Blockchain solution for load balancing in the energy sector. Enabling high resolution utility data with privacy by default trough distributed ledger technology. Hands on experience with IOTA tangle, decentralised aggregation methods such as push sum protocol, synchronisation of data exchange on a network of raspberry pi's.

Python | IOTA | Blockchain Hackathon | Raspberry Pi | IoT | Scrum

Business Analytics and Data Science Consultant

QNH, Amsterdam, Netherlands

2018Q3 | 2016Q3

Developing predictive models to enable clients to make data-driven business decisions. Prototyping of new business models such as predictive analytics on advertisements, classification algorithm for job descriptions, trend reversal analysis on time series and predictive maintenance.

Python | Machine Learning | Bayesian Statistics | Natural Language Processing | Deep Learning

Physics Researcher 2D Electronic Spectroscopy (PhD)

Vrije Universiteit, Laserlab Amsterdam, Netherlands

2016Q3 | 2014Q2

Python Developer in innovative research environment. Built software to measure, control and analyse big research data. Fully automated data collection and processing in a state of the art two-dimensional electronic spectroscopy setup. Signal detection of quantum physical effects in photosynthetic charge separation. Design and development of calibration, signal optimisation and global analysis techniques in order to study charge separation dynamics on a femtosecond timescale. Teaching Physics practicum for Science Business and Innovation.

Python | Big Data | Research | Laser Physics | Femtosecond Spectroscopy | Spectral Imaging

Physics Researcher Optomechanics

FOM-Institute for Atomic and Molecular Physics, (AMOLF)

2014Q2 | 2013Q1

Built tailored object-oriented software in Python to enable ground-breaking research on light matter interactions at the Nano-scale. Fully automated data acquisition, processing and analysis of a microscopic physics experiment in a real-time fashion. Hands on experience with nanophotonic optomechanical systems that serve as extremely sensitive and fast sensors of mechanical displacement. The latter can be used to control quantum state of small objects.

Python | MATLAB | Mathematics | Laser Physics | Nanotechnology | Real-time Data Analysis

Product Developer and Data Analyst

Effectory, Amsterdam, Netherlands

2012Q1 | 2010Q2

Design and test tailor made statistical methods to provide clients with actionable survey insights to help them drive employee engagement. Interfacing development and client-oriented teams within Effectory for the implementation of these methods.

Python | SQL | Natural Language Processing | Statistics | Scrum

Education

MSc Physics

University of Amsterdam (UvA), Netherlands

Advanced Matter and Energy Physics (AMEP)

2014 | 2012 Courses: Nano photonics, Bose Einstein Condensates, General Relativity, Big Issues in Emergent Energy Materials, Statistical Physics and condensed Matter Theory, Superconductivity, Quantum Gases, Wetting and Capillarity

Research MSc: Hybrid cavity-nanoantenna systems. Coupling of whispering gallery mode resonance and plasmonic nano antennas. Opto-mechanics.

Photonic Forces Group, FOM institute AMOLF Amsterdam, Netherlands

BSc Bèta-gamma Physics (major) and Philosophy (minor)

Institute for Interdisciplinary Studies, University of Amsterdam, Netherlands

2011 | 2007 Beta-gamma is an interdisciplinary bachelor with a broad academic focus on natural sciences, life sciences, social sciences, economics and philosophy. Taking an integral approach, to complex cross-discipline problems in science. Specialisation in experimental Physics.

Physics courses: Electrodynamics, Quantum mechanics, Relativity theory, Statistical physics, Classical Mechanics; Philosophy courses: Philosophy of Science, Epistemology, Philosophy and Foundations of Physics

Research Bèta-gamma: Self-organized criticality an interdisciplinary study of complexities

Institute for Interdisciplinary Studies

Research BSc Physics: Behavioural study of coupled magnetic dipoles

University of Amsterdam, Institute for Theoretical Physics

BSc Civil Engineering

Technical University Delft, Netherlands

2007 | 2004 Engineering courses: Linear Algebra, Construction mechanics, Soil mechanics, Fluid dynamics, Numerical methods for differential calculus, Hydrology, Integral Design, Dynamical Modelling, Statistics, Geographic information systems

VWO

St.-Odulphuslyceum, Tilburg

2003 | 1996 St.-Odulphuslyceum Gymnasium Tilburg
Natural Sciences & Technology
Courses: Physics, Mathematics, Chemistry, Economics

Publications

Ferretti, M., Hendrikx, R., Romero, E., Southall, J., Cogdell, R. J., Novoderezhkin, V. I., ... & van Grondelle, R. (2016) Dark States in the Light-Harvesting complex 2 Revealed by Two-dimensional Electronic Spectroscopy. *Scientific Reports*, 6. dx.doi.org/10.1038/srep20834

Ma, F., Yu, L. J., Hendrikx, R., Wang-Otomo, Z. Y., & van Grondelle, R. (2016, December) Direct Observation of Energy Detrapping in LH1-RC Complex by Two-Dimensional Electronic Spectroscopy. In *Journal of the American Chemical Society(JACS)* https://dx.doi.org/10.1021/jacs.6b11017

Ruesink, F., Doeleman, H. M., Hendrikx, R., Koenderink, A. F., & Verhagen, E. (2015). Perturbing open cavities: Anomalous resonance frequency shifts in a hybrid cavity-nanoantenna system. *Physical Review Letters (PRL)*, 115(20), 203904. dx.doi.org/10.1103/PhysRevLett.115.203904

Hendrikx, R., Doeleman, H., Ruesink, F., Koenderink, A. F., & Verhagen, E. (2015, September). Optical antennas in hybrid photonic systems. In *Microwave Integrated Circuits Conference (EuMIC), 2015 10th European* (pp. 397-400). IEEE. dx.doi.org/10.1109/EuMIC.2015.7345153

Ruesink, F., Doeleman, H. M., Hendrikx, R., Koenderink, F., & Verhagen, E. (2015, May). Coupling nano-antennas to microcavities: radiative interactions cause strong and tunable frequency shifts. In *CLEO: QELS_Fundamental Science* (pp. FTu2E-6). Optical Society dx.doi.org/10.1364/CLEO_QELS.2015.FTu2E.6

Awards & Achievements

- Third price in energy track of Blockchaingers Hackathon 2018, Dutchchain
- University Research Fellow 2015-2016, Faculty of Sciences, Vrije Universiteit Amsterdam (VUA)
- Editorial highlight in Physical Review Letters for the research performed at AMOLF
- FOM news 'Nanoparticles unexpectedly make light move faster', 12/11/2015
- Aristotle reward best interdisciplinary research in Bèta-gamma propaedeutic, Institute for Interdisciplinary Studies (IIS), Universiteit van Amsterdam (UvA), 2008

Programming

Expert:	Python, Spark, MATLAB
Competent:	SQL, Mathematica, R
Familiar:	JavaScript, PHP, JSON, HTML, CSS

Languages

Native:	Dutch
Academic:	English
Basic:	French / German

Tech

Languages	Python, R, MATLAB, Mathematica, Solidity, PHP, HTML, JSON
Python	Pandas, NumPy, Scikit-learn, XGBoost, SimPy, Jupyter labs, FastAPI
Analytics	Bayesian Statistics, Machine Learning, Monte Carlo Markov Chain (MCMC),
Ledger	SQL, NoSQL, Blockchain, Ethereum, IOTA Tangle, AWS S3
Repository	Git, Gitlab, Mercurial, Subversion, Docker, Amazon Web Services (AWS)
Hardware	Raspberry Pi, Arduino, Home Automation, Network Security
Creative	Photoshop, Lightroom, After Effects, Cinema 4D, Resolume, Madmapper
Methods	Lean Start-up, Business Model Canvas, Kanban, Agile, Scrum