

# Raoul Grouls

## Resume

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## About Me

I build AI solutions from the brainstorming phase all the way up to deployment in the cloud. If there is a team, I will make sure everyone has a role that fits them while working towards production ready code. Due to my experience as a teacher, both developing and teaching material on deep learning, I can explain technical things in a clear way. This helps me to communicate solutions to all stakeholders and spark enthusiasm. Making a social impact, especially in healthcare and Ethical AI, are subjects that have my special interest.

## Experience

2022–current **Senior Data Scientist**, [Business & Decision](#), Amsterdam

Creating AI "blueprints" for business domains. Researching and deploying deep learning solutions. Teaching on deep learning.

- Techlead for the design of "blueprints" (reusable AI solutions):
  - An AI assistant for retailers to find the optimal quantity to order from your supplier. I did this with probabilistic deep learning on timeseries;
  - reduction of energy consumption for the cooling of datacenters with Reinforcement Learning at [Orange](#). This involved deploying a dockerized pipeline in GCP with a dashboard.
- Teaching deep learning courses at Hogeschool Utrecht and supervising master theses. Recently the students gave me an average score of 9.7 for teaching;
- Coaching juniors and mediors on the job;
- Running a NLP datalab for [stellar.io](#), using zero-shot classifiers
- Techlead for [MedxAI](#) at Maastricht Ziekenhuis Rotterdam (cloud based explainable AI)

2019–2022 **Senior Data Scientist**, [Anchormen](#), Amsterdam

Researching and deploying deep learning solutions. Teaching on deep learning.

- Researching and deploying deep learning solutions for Heineken, Reckitt Benckiser, Bridgestone, Technische Unie, Vitens, Vattenfall, Brocacef. Solutions included NLP, vision, probabilistic forecasting, graph neural networks and dashboarding.
- Develop teaching material on deep learning with Python. Training both data scientists and non-technical staff for CJIB, ASR, Hogeschool Utrecht, Haagse Hogeschool, Gemeente Amsterdam, ITVitae.
- Senior Data scientist for [MedxAI](#) at St Maartensziekenhuis (Medical AI solution)
- Creating a company policy for Ethical AI

- 2014-2019 **Data science and R&D**, *Evoluminate (self employed)*, Zeist  
 R & D for businesses in diverse markets: C1000 (probabilistic demand forecasting), start-ups (matching personal profiles with deep learning), European consortia (consulting for YooM). The solutions ranged from statistical analytics and machine learning models to long term strategic policies, innovative pilots and qualitative research.
- 2012-2014 **R&D**, *YooM*, Delft  
 I worked on a two-year project, resulting from a succesful European subsidy I co-authored. We created an innovative health platform for chronic psychiatric patients ([www.miind.org](http://www.miind.org)) and an online community for lonely elderly. Responsibilities included product development, statistical data analysis and managing the pilot studies.
- 2007-2012 **Innovation Manager**, *Zonnehuizen*, Zeist  
 Tracking stagnated business processes and creating innovative solutions.
  - Optimalisation of process chains
  - Redesigning care programs for challenging clients
  - Redesigning HR instruments for personal growth of employees
  - Running "Large Scale Interventions", both local and national.
- 2001-2007 **Psychiatric Pedagogical Caregiver**, *Zonnehuizen*, Zeist  
 Treatment of adolescents with a psychiatric disorder

## Education

- 2017-2020 **Artificial Intelligence Bachelor**, *Utrecht University*, Utrecht, *Cum Laude*  
 I was invited into the Honors programme. This was an interdisciplinary research programme for creative students in need of an extra challenge. I worked at quantitative research on a state of 'mental flow' during collaboration. We did this with weareable EEG-devices. The subject of my thesis was the integration of reinforcement learning and complex adaptive systems in order to create emotional aware chatbots.
- 2016-2017 **Physics**, *Utrecht University*, Utrecht, *Foundation Course*
- 1997-2000 **Humanistics**, *University of Humanistics*, Utrecht,
- 1990-1997 **VWO**, *Kruisheren Kollege*, Uden,

### Courses

2020	DeepLearning.AI TensorFlow Developer	2 months
2020	Deep Neural Networks with PyTorch	2 months
2015	Java Programming	3 months
2015	Western Medical Basic Knowledge	1 year
2008	Acupuncture	4 years
2008	Large Scale Interventions	3 months

## Tech Stack

- I have done a fair amount of building custom NLP models and timeseries, mainly with TensorFlow and PyTorch, but I prefer Flux.jl (Julia) or Jax/Flax.
- I have been combining timeseries with Bayesian inference to obtain prescriptive stock management models. Used PyMC, Turing.jl and recently POMDP.jl
- To create better user interfaces I am moving away from Streamlit and Shiny in favor of building more solid dashboards from the ground up with Julia, Go and Rust.
- To speed up things I like to work with Rust and Julia or things that have a Rust backend (e.g. polars instead of pandas)

### Languages

★★★★★ Python

★★★★ R

★★★ SQL

★★★★★ Julia

★★★ Rust Go

★★★ bash

### Packages/Frameworks

★★★★★ TensorFlow

★★★★ Jax/Flax

★★★ PyMC3, Turing.jl

★★★ MLflow, Prefect

★★★★★ PyTorch

★★★★★ SciPy, NumPy, Scikit-Learn

★★★ Azure, GCP

★★★ Docker, Terraform, Makefile

## Personal

Dad I have three girls, aged 10, 17 and 19.

Reading I'm an avid reader. Being part of a book club with some friends, we try to read one book every two weeks. Mainly non-fiction. here's my [goodreads list](#) if you're interested.

Weightlifting As a counterweight to the mental work, I try to work out two or three times a week