

## Who is Shady el Gewily?

Ever since I was a kid, I have had a passion for building things with computers and maths as my building blocks. It started with my passion for web development and the mathematics behind 3D Game development. Currently, I am passionate about predictive analytics, applied to the fields of mortality forecasting and marketing analytics. I am passionate, entrepreneurial, driven and I know what needs to be done to make a project succeed. By sketching an inspiring vision of the future, I motivate myself and others. In teams I gladly take the lead by defining concrete goals and drawing a path to success. I help people believe in themselves more. In my free time, I keep up to date with the developments in machine learning, econometrics, software (development), economics and startups. I like to play soccer and poker and I try to read daily, about topics as diverse as economics, investing, effective communication, sales and marketing.

## Current position

### Junior Researcher @ University of Groningen

I rejoined the Future Mortality research project as a junior researcher. I continue to assist the team with R coding, data preparation and visualisation, all-cause and lifestyle-attributable mortality smoothing and forecasting, sensitivity analyses and documenting the methodology we use in our research.

## Previous work experience

### Data Scientist Innovation Lab @ DDB Unlimited

September 2017-now

As Data Scientist in the Innovation Lab I built innovative tools using machine learning techniques to solve complex marketing challenges. Examples are:

- A machine learning methodology that measures the effectiveness of omnichannel media efforts. I gave the existing model a complete makeover and created an R package which was used by me and my colleagues to advise clients about the optimal allocation of their media budget, which has resulted in up to 35% improvement in the marketing ROI.
- A recommendation system that combines customer relevance with business KPIs. This tool ensures that product recommendations are not only relevant to customers, but are also consistent with business drivers.
- Customer segmentation based on actual purchases and market basket analysis.

### Research Assistant @ University of Groningen

2016-2017

As research assistant of the NWO-sponsored Future Mortality research project, I assisted Prof. Dr. Fanny Janssen with:

- Refining the algorithm for estimating model parameters, which helped improve the reliability of mortality forecasts.
- Calculation of mortality statistics and trends, and analyzing and reporting the results.
- Data preparation and visualisation, automating tasks and solving technical R problems for PhD. students.

### Junior consultant @ UniPartners Groningen

2015-2017

As Junior consultant I performed analyses and reported the results for several clients, both individually and as part of a team. A few examples:

- Data collection, preparation, analysis and reporting of statistics about the local economy of several Dutch municipalities.
- Data analysis and reporting for an investigation into the parents' perception of 18 Dutch primary schools.
- Data-driven research for TNO into the best method to minimize the impact of negative PR-publicity on prominent Dutch companies.
- Creation of online surveys and segmenting the client database of a large Dutch webhosting company using data-driven methods.

### Freelance back-end web-developer

2006-2009

While in high school, I taught myself front-end and back-end web development. As a freelancer I have realised back-end systems for international clients in various sectors. Examples are a complete back-end system for a professional networking website (MyWorkster.com) and a coupon administration system (Spaweeek.com).

## Education

<b>MSc. Econometrics, Operations Research &amp; Actuarial Studies (Cum Laude)</b> University of Groningen	2016-2018
<b>BSc. Econometrics &amp; Operations Research</b> University of Groningen	2011-2016
<b>Bilingual pre-university education</b>	2003-2010

## Technical skills

### Scripting/Programming:

- R, Rshiny, Rmarkdown
- SQL
- Python
- Stata
- EViews
- Matlab
- PHP, CSS, HTML
- Javascript
- Java
- C++

### Econometrics/Machine Learning:

- Regression: Linear, GLM, GMM, nonlinear, nonparametric, Random Forest, GAM,, 2SLS
- Classification: KNN, Hierarchical Clustering, Hidden Markov Models, SVM, neural networks
- Feature reduction: Lasso, Ridge, Elastic Net, PCA, FA
- Simulation: Monte Carlo, Gibbs Sampling
- Bayesian statistics: Linear/Non-linear Hierarchical models, Stan
- Time-series: ARIMA, VAR
- Hyperparameter tuning: Gradient descent, constrained optimization, grid search, random search, cross-validation
- Network visualisation: Graphical LASSO, Partial Correlation Network
- Recommender Systems: Collaborative Filtering
- Mortality models: Lee-Carter, CBD family, Hyndman-Ullah, kernel smoothing, APC, CoDe

**Personal study goals:** Sales/acquisition, marketing, branding copywriting, Artificial Intelligence techniques

## Other activities

**Student assistant university course “Intro to Actuarial Sciences”** — University of Groningen (2016)

**Tutor of Mathematics and Statistics** — AthenaStudies (2015-2016) en self-employed (2010, 2016-2017)

**Entrepreneurial ventures** — Centbiedingen.nl (2009), AspiringConcepts (2013-2014)

### Other:

- During my work at DDB Unlimited, I have been a thesis supervisor for a MSc. student of Marketing Data Science at the University of Amsterdam. The thesis was awarded the grade 8.5/10.
- I have been interviewed by the student association Faactor Rotterdam of the study Econometrics & Operations Research, about my role at DDB Unlimited ([link](#), Dutch).
- In [this video \(English\)](#) on the landing page of the BSc. of Econometrics & Operations Research of the Rijksuniversiteit Groningen, I explain my thesis topic, namely the smoothing of mortality rates.
- As a personal coach at Kans050 I have helped Nabil to pass his first year of the study IT. In [this video \(Dutch\)](#) we discuss what our talks were like.
- In 2016 I was selected by UniPartners as junior consultant of the year from Groningen. As an award I attended UniPartners High Potential Day.
- In 2017 I started the Research Master Econometrics & Business Analytics, but I decided not to pursue a career in academia.
- In 2018 I started offering my freelance services on my website <https://r-genius.com>, feel free to read the testimonials about my work.