

# Martin Čadek

DATA SCIENTIST

✉ cadekmail@gmail.com | 🏠 www.martincadek.com | 🌐 martincadek

*I hold a PhD with a focus on health communication, public health, and obesity interventions, and I am currently employed as a Data Scientist at Roche. My expertise lies in delivering reproducible analytical and statistical solutions using R, Python, and SAS. I am passionate about reproducible research, open-source projects, and work with social impact.*

## Skills

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### DATA SCIENCE

- Exploratory data analysis, machine learning and regression analysis {tidymodels, car, lme4}, data wrangling {tidyverse, data.table}, dashboard development {shiny}, data visualization {ggplot2, plotly}, computerised text mining {quanteda, tidytext}, continuous deployment {netlify}, reproducibility {rmarkdown, renv, venv, miniconda}

### APPLICATIONS

- RStudio, VS Code, SAS, Tableau, Excel, Qualtrics

### LANGUAGES

- R {ggplot2, Shiny, data.table, tidyverse, tidymodels, quanteda, tidytext}
- Python {pandas, scikit-learn}
- SQL {Postgre}
- Git {GitHub, GitLab}
- SAS

## Experience

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### Roche

Welwyn Garden City, England

DATA SCIENTIST

2023 - ongoing

- My responsibilities as a Data Scientist in Pharmaceutical Research and Early Development (pRED) include:
  - Leading statistics and programming activities for Phase 1 studies in the cardiovascular and metabolism disease areas
  - Transforming, organising, and analysing data from clinical studies, and producing tables, listings, and graphs to inform key decision-making activities across Phase 1 and 2 clinical trials in various disease areas
  - Contributing to open-source software and package development as part of the NEST project
  - Developing strategies towards classical and generative AI in Data and Statistical Sciences at Roche as part of DSS AI Team
  - Providing expertise in R programming language, advanced visualisations, Git, and package development

### Vodafone

London, England

QUANTITATIVE USER RESEARCHER

2022 - 2023

- In my role, I was combining statistical modelling techniques with focus on user behaviour (UX) as a Quantitative Researcher:
  - Developing business-wide metrics to measure user experience across key digital journeys. This is done using my knowledge of psychometric testing, validity, and reliability.
  - Establishing methodologies to support quantitative UX research internally and helping to standardise our approach to user experience measurement. Focusing on developing methods to reproducible survey analysis using Python and R.
  - Collaborating with designers, product owners, data scientists, researchers, and other stakeholders to develop user-centered products.
  - Development of internal R package and Python library to streamline reproducible research, documentation on AzureDevOps repositories, and maintenance of repositories for analytical work in the team.
  - Development of reproducible pipelines using Python digesting data from APIs and plotting the results in Dashboard environment.
  - Using R, Python, Git, Azure DevOps.

### Kantar

London, England

DATA SCIENTIST

2021 - 2022

- I was working as part of the Expert Solutions team with clients in the fast-moving consumer goods sector. Here were some of the things I did:
  - developed as a data scientist, gained industry experience and tackled exciting new challenges
  - worked with structured, untidy, and large data
  - developed bespoke solutions for clients, using techniques such as hierarchical clustering algorithms, k-means, or latent class analysis
  - provided solutions such as customer segmentations, market penetration analyses, and market structure
  - worked with tools such as Git, Azure DevOps, SQL, R, and SAS

## Department of Health and Social Care

London, England

### STATISTICIAN

2020 - 2021

- I was working as an Statistician in the DHSC Social Care Data and Analysis team since September 2020 until October 2021.
- I was responsible for delivering situational reports and statistical support for briefings in collaboration with policy colleagues and the Test and Trace programme. I contributed to the quality assurance of analyses across the team and promoted data science using R programming language.
- Examples of my work:
  - automated reporting in R for flu immunisation status of residents and staff at care homes in England
  - reproducible analytical pipeline (RAP) to draw and access Care Home data from a JSON feed
  - RAP to extract and process data from the Office for National Statistics (the ONS)
  - advanced visualisations regarding numerous ad-hoc request across topics such as flu immunisation, survey response rates, or covid incidence
  - quality assurance of reports, statistical analyses, and figures

## Assessment Systems International a.s.

Remote

### SHINY R DEVELOPER

2018 - 2019

- I worked under contract to develop an R application with a Shiny front-end for machine-learning-driven assessment of candidates based on psychometric data, and I,
  - created a proof-of-concept that was accepted for further development
  - wrote the client-side components
  - designed and implemented a web UI in Shiny that enabled interactive navigation through the ML-model-building process and enabled the user to save and reuse the resulting model
  - coordinated project management remotely with the client using agile methodology
- The application drew on R packages to provide feature selection methods, classification and regression algorithms, and ensemble models, specifically elastic net models (glmnet), tree-based models (rpart), support vector machines (svmRadial), random forest (rf), neural networks (nnet), and k-nearest neighbour (knn)
- The application enabled the client to engage consultants with no programming experience and increased the effectiveness of the assessment process

## Leeds Beckett University

Leeds, England

### PHD

2017 - 2021

- My research looked into improving the routine feedback letters with height and weight results delivered to all parents with Reception and Year 6 children as part of the National Child Measurement Programme (the NCMP) in England
- The project engaged multiple stakeholders such as Local Government, Public Health England, and parents, and provided nuanced insights into the NCMP, throughout the project I,
  - developed three complex studies using qualitative and quantitative methods
  - gathered opinions of 92 Local Government Authorities in England about how they use the NCMP and provided the results to the Public Health England as evidence for further improvement
  - prepared cluster randomised controlled trial and stratification procedure with reliance on clustering utilising k-means
  - developed a new version of the feedback letters which resulted in improvement of parental perceptions about the letters
  - used computerised text analysis techniques on a vast corpus of text data. For example, sentiment analysis, topic modelling (LDA), hierarchical clustering
  - used Google Natural Language Processing speech-to-text API to automatically transcribe all the interviews
- I became experienced with content analysis, literature and evidence reviews, and contributed to the writing of reports and journal articles
- I presented my findings at,
  - UKCO, Newcastle upon Tyne, England United Kingdom, September 2019
  - Public Health England Annual Conference 2018, University of Warwick, UK
  - Weight Stigma Conference, Leeds, UK, June 2018
  - UKCO, Newcastle upon Tyne, England United Kingdom, June 2018

## Influencer.cz

Prague, Czechia

### MARKETING ANALYST

2013 - 2017

- As a marketing researcher executive, I was primarily responsible for the management of social media pages, content creation, and copywriting
- My clients were OZP (the third largest insurance provider in Czechia), BMW Mini (car manufacturer), and Centropol (energy and gas supplier), for these clients I,
  - prepared engaging content for their pages which led to an increase in sales and engagement of the page visitors
  - developed a transparent marketing strategy and content plans that are still used by the clients
  - provided long-term content plans that engaged their customers and facilitated sales
- Some other clients I have worked with were Lexus (car manufacturer), NKC (a non-profit organisation for the representation of woman in STEM), for them I,
  - provided an analysis of their marketing strategy and content
  - conducted customer segmentation using R and latentclass modelling
  - developed descriptive reports using ggplot2 and RMarkdown proposing a suitable marketing strategy

## University of Cambridge

Cambridge, England

VISITING RESEARCHER

2015 - 2016

- I joined the Policy Research Group at the University of Cambridge as a visiting researcher under the supervision of Dr Kai Ruggeri. As a member of the group I,
  - developed infographics, reports, and presentations for the Safer Care Pathways in Mental Health Services project supported by The Health Foundation (<https://cli.re/rwmbWR>)
  - assisted with data collection and development of a database containing Issue-Based Industry Collectives in the alcohol industry and their characteristics for Dr Jochem Kroezen (<https://cli.re/Zejkxx>)
  - helped to design the Health@Work (H@W) questionnaire for an organisational setting that aimed to match employees' views on health and wellbeing to those of employers'
  - assisted with data collection of Pro Bono activities of U.S. Law firms for Dr Lionel Paoella
  - attended policy lectures and MBA courses in microeconomics

## Junior Research Programme

Europe

JUNIOR DATA ANALYST

2014 - 2015

- I have joined a team of early-career researchers in the position of Junior Data Analyst and collaboratively developed a project focusing on Obesity discrimination in the Workplace supervised by Dr Stuart Flint
- The project was disseminated as a journal article (<https://cli.re/JpW7k5>)
- Our work was featured in the following media:
  - <https://cli.re/Qm54PB>
  - <https://cli.re/mqrM2P>
  - <https://cli.re/b1x17e>

## Courses

### Course

[www.coursera.org](https://www.coursera.org)

COURSERA

2023

- Making Data Science Work for Clinical Reporting. Credential: 2PYLWUBACCCF

### Course

Welwyn Garden City, England

SAS

2023

- SAS Programming 1: Essentials. Credential: <https://www.credly.com/badges/76d7c959-433b-4d91-8911-fc75c0402d4b>

### Course

[www.datacamp.com](https://www.datacamp.com)

DATA CAMP

2018

- Data Analyst with R Track Data Analyst with R Track

### Course

Leeds, England

UNIVERSITY OF LEEDS

2018

- Summer School of Causal inference with observational data: the challenges and pitfalls (5 days course).

### Online

<https://cli.re/5Azz8D>

AGRO CAMPUS OUEST

2017

- Exploratory Multivariate Data Analysis (MOOC) by François Husson.

### Course

Cambridge, England

UNIVERSITY OF CAMBRIDGE

2016

- Certified IRT and CAT course using Concerto at Psychometric Centre (3 days course).

## Community

### Leeds R Meetups

Leeds, England

CO-ORGANISER

2019 - 2021

- As an R enthusiast, I have been involved in organising the R meetups in Leeds
- <https://cli.re/E59kPe>

### Leeds Beckett R Meetups

Leeds, England

ORGANISER

2018

- I held a series of R meetups to provide R training to other PhD students, and supported the statistical analysis that was essential for other research projects.

### Qualtrics workshops

Leeds

LECTURER

2018

- Delivering series of free workshops about survey development for research staff at Leeds Beckett University

# Education

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<b>Leeds Beckett University</b> PHD DEGREE, PSYCHOLOGY	<i>Leeds, England</i> 2017 - 2022
<b>Charles University</b> MASTER'S DEGREE, PSYCHOLOGY	<i>Prague, Czechia</i> 2013 - 2016
<b>Charles University</b> BACHELOR'S DEGREE, PSYCHOLOGY	<i>Prague, Czechia</i> 2010 - 2013