

# Chi Zhang

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Website: <https://andreaczhang.github.io>

## Experience

### **Lecturer — University of Oslo**

2023.01 - present, Oslo, Norway (part-time)

- MF9130, MF9130E - Introduction to Statistics at the Medicine Faculty, University of Oslo.
- Lead the development of novel pedagogical methods using R, GitHub, Posit Cloud

### **Data scientist — Norwegian Institute of Public Health / Folkehelseinstituttet**

2020.10 - present, Oslo, Norway

- Develop, maintain and improve Sykdomspulsen ([link](#)), the open source infrastructure for real time public health surveillance on infectious disease and mortality in Norway. Sykdomspulsen has been the core of emergency preparedness and response during the COVID-19 pandemic.
- Develop and automate data I/O, cleaning, analysis and reporting tasks using R and CI/CD tools
- Develop the R shiny website for municipal public health officers (kommunelege)
- Develop and maintain R packages ([link](#)) to facilitate visualisation, computing and reporting
- Responsible statistician for the Norwegian Mortality Monitoring (NorMOMO, [link](#)), part of the European network EuroMOMO ([link](#))
- Responsible for Sykdomspulsen's collaboration with Dødsårsaksregisteret (Cause of Death Registry)

### **Statistical advisor — Oslo Center for Biostatistics and Epidemiology**

2016.08 - 2019.09 and 2021.09 - present, Oslo, Norway

- Provide statistical assistance on methodology and result interpretation to medical researchers and clinicians in 10+ projects
- Collaborate with clinicians and perform clinical data analysis using R, edit, draft and comment on papers
- Supervise statistical work by medical students

## Education

### **Ph.D., Biostatistics — University of Oslo**

2022, Oslo, Norway

Thesis: Representation and utilisation of hospital electronic health records data

### **MSc, Statistics — Imperial College London**

2016, London, UK

### **BSc, Mathematics with Finance, 1st Class Honour — University of Liverpool**

2014, Liverpool, UK

### **BSc, Financial Mathematics, 1st Class Honour — Xi'an Jiaotong Liverpool University**

2014, Suzhou, China

## Selected Talks

*Introducing Sykdomspulsen, an automated public health surveillance platform.* 2022. Oslo UseR Meetup ([link](#))

*Learning from heterogenous electronic health records using R.* 2019. Oslo R ladies Meetup

*Building website in R: step by step introduction to blogdown.* 2019. Oslo UseR Meetup

## Software

*QtwAcademic* ([link](#))

*cstime* ([link](#))

*csmaps* ([link](#))

*csdata*([link](#))

For a complete list of softwares, please see this page ([link](#))

## Teaching

MF9130 - Introduction to Statistics (Medicine Faculty, University of Oslo) 2023 Spring

Teaching assistant, R for Reproducible Scientific Analysis (workshop, [link](#)) at University of Oslo. 2022

Certified instructor to teach programming skills for research computing. [link](#)

## Skills

### **Programming:**

- Scientific computing: R, Python, Matlab. Experience with R package development
- Unix/Linux, bash scripting
- Version control: Git
- CI/CD: Jenkins, Airflow
- Database: SQL
- Web: Quarto, R shiny, blogdown and distill package, Hugo

### **Statistics and machine learning**

- Time series
- Regression analysis
- Multivariate analysis
- Machine learning tools including neural networks

### **Languages**

English (professional proficiency), Chinese (native), Norwegian (intermediate), Italian (basic)

## Honors and awards

RStudio diversity scholarship (RStudio, 2021)

Merit student (Xi'an Jiaotong Liverpool University, 2011)

Scholarship for excellent academic performance (Xi'an Jiaotong Liverpool University, 2010 and 2011)

## Leadership and activities

Group leader for International Humanitarian Law volunteer group, Oslo Red Cross (2018) Oslo, Norway

Deputy manager, Oxfam GB (2015) London, UK

Student representative, Xi'an Jiaotong Liverpool University (2010-2011), Suzhou, China

## Publications

**Zhang C.**, Eken T., Jørgensen S., Thoresen M. and Søvik S. (2022) Effects of patient-level risk factors, departmental allocation and seasonality on intrahospital patient transfer patterns - network analysis applied on a Norwegian single-centre dataset. Published in *BMJ Open*. DOI: 10.1136/bmjopen-2021-054545

Sarjomaa M, Diep LM, **Zhang C**, Tveten Y, Reiso H, Thilesen C, et al. (2022) SARS-CoV-2 antibody persistence after five and twelve months: A cohort study from South-Eastern Norway. *PLoS ONE* 17(8): e0264667.

**Zhang C.**, Fanaee-T H. and Thoresen M. (2021) Feature extraction from unequal length heterogeneous EHR time series via dynamic time warping and tensor decomposition. Published in *Data Mining and Knowledge Discovery* 35:1760-1784. DOI: 10.1007/s10618-020-00724-6

S. Kabashi, V. Vindenes, E.A. Bryun, E.A. Koshkina, A.V. Nadezhdin, E.J. Tetenova, A.J. Kolgashkin, A.E. Petukhov, S.N. Perekhodov, E.N. Davydova, D. Gamboa, T. Hilberg, A. Lerdal, G. Nordby, **C. Zhang**, S.T. Bogstrand. (2019) Harmful alcohol use among acutely ill hospitalized medical patients in Oslo and Moscow: A cross-sectional study. *Drug and Alcohol Dependence*, Volume 204, ISSN 0376-8716, <https://doi.org/10.1016/j.drugalcdep.2019.107588>.

T. Reier-Nilsen, K.C.L Carlsen, M.M. Michelsen, [et al. including **C.Zhang**]. (2019) Parent and child perception of quality of life in a randomised controlled peanut oral immunotherapy trial. *Pediatric Allergy and Immunology*. Volume 30, Issue 6. <https://doi.org/10.1111/pai.13066>.

Hansen, A.G., **Zhang, C.**, Loven, J.Ø. *et al.* A questionnaire using vocal symptoms in quality control of phonosurgery: vocal surgical questionnaire. *BMC Ear Nose Throat Disord* 18, 9 (2018). <https://doi.org/10.1186/s12901-018-0057-0>